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Chi Li

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# Foreword: Li Chi 1896–1979

After almost 60 years, first as the father and later as the dean of Chinese archaeology, Li Chi has left indelible contributions to the science of humankind and of history, and his thinking still dominates his discipline in China.

Born in Hupei, Li Chi grew up at home and in Peking at a time when the old country, forced by encounters with the West, was taking its initial steps on the long road to modernization. Then, as now, bright young students were sent to Western countries to learn their scientific secrets. After his graduation from the elite Tsinghua Academy, Li Chi was sent to the United States, where he studied psychology and sociology at Clark University in Worcester, Massachusetts, and then anthropology at Harvard. According to an interview with Wilma Fairbank in 1977, Li Chi said that he went to Clark because a psychology teacher at Tsinghua, a Dr. Wolcott, had told him that Clark was the place to be for psychology. While at Clark, Li Chi developed the habit of spending every Saturday morning browsing in the open shelves of the library. There he happened upon anthropology books and was fascinated by this subject, of which he had had no previous knowledge. At Harvard, where he earned a doctorate in 1923, Li Chi studied with Hooton, Tozzer, and Dixon, and from these three mentors, he learned, respectively, physical anthropology, archaeology, and ethnology, all of which he made use of, both in his doctoral dissertation (1928) and in his subsequent 60-year career in China.

From 1923, when he returned to China, to 1928, Li Chi was the typical university professor-cum-research scholar in the American mold. He taught at Nan-k'ai University in Tientsin (1923–1925) and then at his alma mater Tsinghua Academy's new Graduate Research Institute (1925–1928). From 1925 to 1926 he undertook the excavation of a Neolithic Yang-shao culture site at Hsi-yin-ts'un in Hsia Hsien, southern Shansi, under the joint auspices of the Tsinghua Institute and the Freer Gallery of Art, Washington D.C., becoming the first Chinese scholar to dig an archaeological site.

The year 1928 was a turning point in Li Chi's life, and it was a turning point in Chinese archaeology and historiography as well. To appreciate fully the significance of events surrounding Li Chi beginning in 1928 we must go back some 30 years, to 1899, 1 year before the Boxers and the Allied Invasion which wrought Imperial China's ultimate humiliation in the face of the industrial and military might of the West. In that year oracle bone inscriptions of the Shang (or Yin) Dynasty (1766–1122 B.C.) came to

the attention of ancient historians for the first time since the dynasty's fall 3,000 years previously, and during the next 30 years, Shang scholars within and outside of China became fascinated by this new historiographic source material and launched extensive efforts to track down the bones floating on the antiquities market. Before long, the scholars became aware that these inscribed bones had come from Yin Hsü, the ruins of the Yin Dynasty, long known to be on the banks of the river Huan, near the modern city of An-yang, in northern Honan.

In 1928, the Nationalists succeeded in their Northern Expedition and founded a new regime in Nanking. A new national academy of sciences—*Academia Sinica*—was established, and under it, there was a National Research Institute of History and Philology. The institute's director, Fu Ssu-nien, who had studied historiography and philology in Germany, decided at once on two projects, among others, for the new institute to launch—to establish a department of archaeology as a new instrument to investigate Chinese history; and to carry out an excavation at Yin Hsü as the department's first field project. For both, Fu needed a senior archaeologist trained in the Western tradition of field investigations, and Li Chi was a logical choice for both department chairman and excavation project director. From then on, Li Chi's career became inextricably linked with the An-yang excavations, which, under *Academia Sinica*, lasted for fifteen field seasons, until the middle of 1937.

It is known to only a very few people now that when Fu was looking for a suitable scholar to head the new archaeology department—thus choosing, in effect, the national leader of archaeology—he had recommended to him not one, but two strong candidates, the other being Ma Heng (1881–1955), a highly respected scholar of the traditional antiquarian mold, later to become chairman of the Research Section of Archaeology of Peking University and director of the Palace Museum. It would be interesting to speculate what Chinese archaeology would be like now had Ma Heng been Fu's final choice, for the An-yang excavations of 1928–1937 and Li Chi's direction of them were to shape Chinese archaeology for the next half-century.

First of all, the An-yang excavations established the status of the Shang civilization at the head of the ancient history of China as the first civilization in the whole eastern half of Asia with written documents. Shang is the linchpin that ties together the vast recorded history of China with the increasing body of information about prehistoric China. But our knowledge of the Shang has to a great extent been shaped by Li Chi. He organized the search at An-yang for archaeological sites. He applied

Western archaeological methods and concepts. He recruited colleagues and students and trained them in these methods and concepts at An-yang. Among these younger scholars were all the leading archaeologists active in China in the last 30 years, including Hsia Nai, director of the Institute of Archaeology, the Chinese Academy of Social Sciences, and Kao Ch'ü-hsun, until summer 1981 director of the Institute of History and Philology in Taiwan. Li Chi also set both the tone and the priorities of the study of the An-yang finds, and his methodology—above all ceramic and bronze vessel nomenclature and typology—still dominates the whole field of archaeology in China. In his own research, he set a high standard of scientific excellence, which his successors struggle to measure up to in their own works. He was also both a patriot, jealously guarding China's cultural treasures against foreign pilferage, and an internationalist eager to adopt the best techniques and ideas the West had to offer and to view and conceptualize about China in the world setting. Many of his successors have succeeded in being one or the other, but few have equaled his tenacity and vision to be both.

The Sino-Japanese War that broke out in July 1937 virtually put an end to further archaeological fieldwork of significance being carried out by Li Chi's department, and after 1949 he went to Taiwan. From 1937 until his death in 1979, Li Chi spent much of his time dealing with the care, transportation, study, and publication of the An-yang material excavated during the 1928–1937 interval. Although the war-caused instability of institute life and the deaths and departures of many of the An-yang archaeologists had adversely affected Li Chi's plans for the Shang treasure, by the time of his death he had seen the publication of the bulk of the material, which he summarized in his last book *Anyang* (1977). The whole report is not out, but the adverse factors were beyond Li Chi's control, and he did everything he could have done, for which we are truly grateful. I have a strong feeling that the reason Li Chi declined repeated offers of university posts in the United States, to which some of his Academia Sinica colleagues immigrated during and after the war, was primarily because he felt he had to stay in China to see the Anyang studies through.

Outside his An-yang work, Li Chi was engaged in many other significant scholarly activities, first during the war in the Southwest and, after 1949, in Taiwan. Among them, we may name the following. In 1934 he was appointed to head the Central Museum, and from then on he was an ardent espouser of historical museums as organs of excavation, research, and education. This ideal has been put into practice extensively throughout China during the last 30 years. In 1949 he founded the Department of

Archaeology and Anthropology at the Taiwan University in Taipei, the first university program in China to train professional archaeologists. In the early 1960s, he was instrumental in the organization, under Academia Sinica, of a committee on the ancient history of China to launch the preparation of a multiauthored, interdisciplinary volume on ancient Chinese history, the first such effort in Chinese historiography. By the time of his death, the first drafts of this volume were beginning to appear.

I first met Li Chi in the fall of 1950, when I was admitted to his new department at Taiwan University. For the next 29 years, he was my teacher, mentor, critic, role model, and academic conscience. I was always conscious, of course, that Li Chi was a great historical figure, who had given archaeology in China its present shape. But above all he meant just one thing to me—he embodied the highest scientific standard that could be achieved in the study of Chinese history and archaeology. He had a single-minded devotion to scientific scholarship in China and by his own word and deed set a forbidding model for his followers to aspire to. His death is a gigantic loss for all true scholars of the world.

**K. C. Chang**  
**November 1981**



Li Chi in U.S. as a student



Li Chi, Wang Kwo-wei, Liang Ch'i-ch'ao, and Chao Yuen Ren (from left to right, the front row) at Tsinghua Research Institute on Chinese Study in 1924



Archaeological excavation site of Hsi-yin Ts'un of Shansi in 1926



Excavation of HPKM: 1001 of the Hou-chia-chuang Royal Cemetery in 1934



With Hu Shih (left) before the building of Institute of History and Philology of Academia Sinica at Nankang in 1957



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# 1. Digging up China Past

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More than 40 years ago, when I was first admitted to the middle school, I used to feel extremely happy to know that I was born in a country whose history had already lasted 5,000 years. I say 5,000 years because it was actually the figure given to the youthful mind of my generation. The Sumerian civilization and the Egyptian civilization, we were told, might have started earlier; but they were also dead long ago. The Hindus, too, enjoy a long tradition, but their men of learning, till recently, never seemed to think it worthwhile to put their tradition on written records. So when all these things have been considered, China is certainly the oldest country still existing on this earth, and possesses the longest—and this is important—continuous written history of all the nations. This was my understanding of China's past before the time of the Chinese Revolution [of 1911].

After the revolution, things began to change. There was a time when the reformers of China were skeptical about everything recorded in and about the past, including history itself.<sup>1</sup> The Renaissance movement in the early twentieth century was essentially a rationalist movement, more or less akin in spirit to that of the classicists of the seventeenth century. Their slogan, “Show your proof,” though destructive in nature, did bring about a more critical spirit in the study of ancient China. Thus, if one wants to pay excessive tribute to the Golden Age of Yao and Shun, well, Show your proof; if one wishes to talk about the engineering miracles of the Great Yü of the third millennium B.C., proofs must also be given. What must be remembered in this connection is that written records alone were no longer

accepted as valid proofs.

This proof-seeking movement created a great deal of havoc with traditional learning and revolutionized the method of classical studies. Modern archaeology in China was born in this atmosphere.<sup>2</sup>

The task of a modern archaeologist in China, however, is not limited to the search for proofs in order to reinstate the glories that were China's past. His more important mission is rather to answer a set of new questions conceived in the light of modern science but only dimly perceived by historians of bygone generations. The questions so raised are of two different categories but are closely interwoven with each other: the one is concerned with the origin and the formation of the Chinese people, and the other with the nature and the building of Chinese civilization.

So the new historians have been continually asking: Who were the earliest Chinese and in what manner was the Chinese civilization developed? I shall make an attempt to answer the above two questions in a general way and on the basis of modern archaeological discoveries. Let me take up the racial history of the Chinese people first.

The earliest examples of *Homo sapiens* discovered in the Chinese area are still those from the Upper Cave of Chou-kou-tien, first found in 1933 and briefly described in a preliminary report by Franz Weidenreich in 1939.<sup>3</sup> The skeletal remains from this cave show a curious combination of several specimens. According to Weidenreich's descriptions, the three best-preserved skulls represent "three different racial elements...to be classified as primitive Mongoloid, Melanesoid and Eskimoid..."<sup>4</sup> What is amazing to many an anthropologist who studied these data is the great possibility that these three individuals might have belonged to only one family, if there was at that time a family organization. Weidenreich's paper aroused some very interesting speculations in many quarters. One of the queries stimulated by this discovery was about the possible relation of the Upper Cave skeletons to the formation of the Chinese people in historical times. According to Weidenreich's idea, if the ancestors of the modern Chinese were already existent 20,000 years ago,<sup>5</sup> they were certainly not represented in the Upper Cave of Chou-kou-tien. The concluding paragraph of his interesting paper published in the *Bulletin of the Natural History Society of Peking* includes the following remarks:

As to the origin of the Chinese—in so far as it is permissible to use this designation in determining a race—the discovery of Chou-kou-tien population failed to shed any light. Even so, one cannot conclude that the Chinese did not already exist during the Upper

Palaeolithic time because there is evidence that Melanesian and Eskimoid types were in existence at that time. It is possible that the Chou-kou-tien family belonged to a migrating tribe foreign to the country and that the actual settlers who attacked and exterminated them were the real representatives of that Chinese race....<sup>6</sup>

Professor E. A. Hooton, while agreeing with Weidenreich's major diagnosis, expressed his dissension on one point. He believed that the Old Man of the Upper Cave, whom Weidenreich classified as primitive Mongoloid, "... looks like a primitive European White, with more than a dash of the archaic Australoid features and can be duplicated almost exactly in the skulls of modern Ainu...."<sup>7</sup>

Professor Hooton's remark is the more interesting because it serves to link the discovery of the Upper Cave not only with modern anthropology of the Far Eastern region but also with some curious tales transmitted from early China.

Among the strange tales told in the *Mountain and Sea Classics*, there is one story about a Hairy People in Book 17.<sup>8</sup> This book is devoted to the folklore of the northeastern region of the Ancient East, covering approximately the territory of modern Manchuria, eastern Siberia, and the islands of Sakhalin and Japan. The description of the *Mao-min* of this region, that is, the Hairy People, includes some statements about both their physical appearance and their food habits. An explanatory note attached to the term *Mao-min* by a fourth-century commentator says that the faces and bodies of these people were all covered with hair.<sup>9</sup> It is obvious that both the author of *Shan-hai-ching* (i.e., the *Mountain and Sea Classics*) and its commentator must have been more or less familiar with the appearance of the *Mao-min*, as their descriptions of these people almost exactly fit the modern Ainu, still surviving in the northern part of Japan.

Even more significant than this interesting tale about the *Mao-min* is a statement occurring in the chapter on the antiphrenology of Hsün-tzŭ, the great Confucian philosopher of the third century B.C. In his scathing criticism of the practice of, and the superstitious beliefs in, phrenology, Hsün-tzŭ said: "In Hung Yao's physical appearance, no skin is visible on his bodily surface...", meaning that the strange appearance of Hung Yao did in no way check his eminent career.<sup>10</sup>

Hung Yao, as is well known to students of ancient Chinese history, was one of the ten most prominent ministers who composed the brain trust in the court of the founders of the Chou dynasty.<sup>11</sup> If his face was all covered with hair, it would be by no means too speculative to take him as one of the

kinsmen of the Ainu's ancestors or, perhaps, a descendant of the Old Man of the Chou-kou-tien Upper Cave, if one were inclined to accept the opinions of the late Professor Hooton. Since the Ainu have been classified as one of the Palaeo-Asiatic peoples, the assumption is certainly well justified that they played an important role in the formation of the Chinese people in the protohistorical period. But evidently, they were in a small minority, as in the time of Hsün-tzŭ their hairiness was already considered more or less unusual.

As to the Melanesian elements, it is also interesting to speculate as to when they became "exterminated" by representatives of the Chinese, as Dr. Weidenreich has put it. We know almost for certain that there were still Negrito survivals in South China as late as the ninth century A.D.,<sup>12</sup> and perhaps even later, a fact that tends, indirectly at least, to confirm what the French archaeologists found in the prehistorical sites of Indo-China, the presence of pre-Melanesian skulls. On ancient Chinese bronzes, one occasionally finds, among their profuse decorative patterns, the casting of the human face realistically done; the Melanesian appearance is by no means rare. The most illuminating example is from the Sumitomo's collection,<sup>13</sup> a *yu* wine vase cast in the form of a tiger embracing a child; the face of the child shows a decidedly Negroid countenance with which the designer of this bronze must have been intimately acquainted. A big bronze tetrapod, weighing many hundred pounds, was dug out during World War II by a group of peasants in the neighborhood of the ancient capital of the Shang dynasty. This, too, shows, on the two standing lugs above the rim, a decorative pattern consisting of a human head, Negroid in appearance, placed between the heads of two tigers standing on their hind legs and arranged antithetically (Fig. 1.1). Other instances of this kind need not be repeated.



*Fig. 1.* Ink rubbing of the decorative pattern on the standing lug above the rim of a tetrapod discovered in the neighborhood of Houchia-chuang

But down to the close of the Neolithic time in North China, the people who dominated this area were Mongoloid and, according to the study of Davidson Black, “conformed to a type essentially similar to that represented by the present-day Northern Chinese....” Three years later Black again said, in the concluding chapter of his study on the Kansu and Honan Aëneolithic skulls:

...As a result of the foregoing investigations into the group measurements and form relations of the Honan and Kansu prehistoric crania in comparison with recent North China material, it would seem to be established beyond any reasonable doubt that the prehistoric populations represented were essentially oriental in physical character.

Further, the resemblances between these prehistoric and recent North China populations would appear to be such that the term “proto-Chinese” may with some propriety be applied to the former.<sup>14</sup>

It is to be observed that from the time of the Old Man of the Upper Cave of Chou-kou-tien to the Late Neolithic of North China, the time interval is more than 10,000 years. Modern archaeology has not yet been able to supply any material for a study regarding the emergence of the proto-Chinese or to fill up the gap with an evolutionary series of the Mongolian race from the primitive Mongoloid to the formation of the Chinese people in historical time, except for the find of a single tooth of

Upper Palaeolithic time in the Ordos region,<sup>15</sup> discovered by Licent and Teilhard de Chardin, and described by Davidson Black as a “shovel-shaped upper incisor.”

This isolated find, on account of its unique morphological character, has aroused a great deal of interest among both anthropologists and historians. It is doubly significant because on the one hand this morphological feature seems to be related to *Sinanthropus pekinensis*, according to Franz Weidenreich, and on the other hand to the modern Chinese. Weidenreich's study on the “Dentition of *Sinanthropus Pekinensis*” devoted fully two pages to discussing the problem of shovel-shaped incisors in recent mankind and made the following remarks:

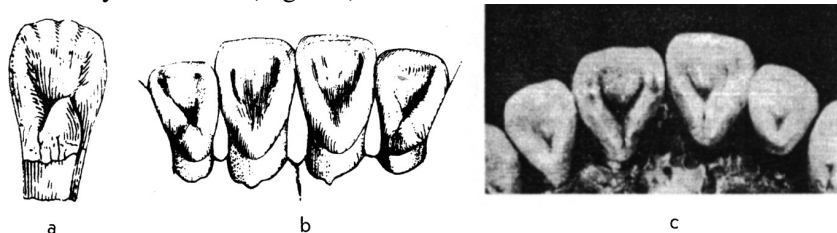
As to the occurrences of these types in recent mankind, the essential point is not that they may be found to a certain extent in all races in a minor percentage, but that they occur in special races up to almost 100 %; as, for instance, in Eskimo and Chinese, at least as far as the lateral incisors are concerned; and the same percentage must be taken to be characteristic for *Sinanthropus*...<sup>16</sup>

It is not my purpose to discuss any possible relation between the *Sinanthropus* and the Mongoloid or the Chinese. But it is important to note that Professor Weidenreich's statement about the frequency of the shovel-shaped incisors among the Chinese has recently been confirmed by an examination of the incisor teeth of freshmen of the Taiwan University.<sup>17</sup> Among 803 male freshman students examined in 1952, more than 90% possessed shovel-shaped upper incisors; the same was true of 121 female freshmen. In both sexes, the incisors of less than 1% showed a non-shovel-shaped appearance.

In addition to the above confirmatory evidence, it is to be further noted that Davidson Black, in his note on the Ordos tooth, made use of a number of the upper lateral incisors recovered from the Aëneolithic sites in North China for comparative study. He said that in all these specimens, whether Early Bronze and Copper Age or modern North China, we are dealing with well-formed incisor teeth, conforming in all essentials and most details to a type aptly described by Hrdlička as shovel-shaped.

Thus modern archaeology and modern anthropology have jointly established a case that in Eastern Asia the evolution of Hominidae, from the time of early Pleistocene down to the modern age, is accompanied at different stages by a persistent morphological characterization: the invariable presence of the shovel-shaped upper incisor teeth. It is a

phenomenon quite peculiar to this region, which so far has found no parallel anywhere else (Fig. 1.2).



**Fig. 1.2** Three examples of shovel-shaped incisor teeth from North China: **a** Ordos tooth of presumably Pleistocene period; **b** Sinanthropus teeth; **c** upper frontal incisor of a Shang dynasty skull

There seems to be little question that the origin of the ancestors of the Chinese is tied up with the origin of the Mongoloid; and the Mongoloid race, on the evidence now available, must have evolved east of the Ural Mountains. With this background as a working hypothesis, we should be better prepared for an interpretation of early Chinese history.

I propose to start the discussion of early Chinese history with the Neolithic phase, as it is only at this stage that there is something definite to work upon.

It is well known that prehistorical researches in China started with the Swedish geologist, Dr. J. G. Andersson, who not only discovered the locality of Chou-kou-tien and the first trace of Peking Man but was also the first scientist to find the existence of a widely distributed prehistorical culture of the late Neolithic phase in North China. The interest shown in this discovery by archaeologists all the world over is mainly due to the possible relation this culture might have had with the West. This fascinating question, however, could hardly be settled at present on the basis of available data; so let us confine our discussion to the field of the Chinese area.<sup>18</sup>

In the last 30 years, archaeologists have located the presence of the Painted Pottery culture along the major portion of the Yellow River Valley basin in North China, with, however, a marked exception in the province of Shantung. Its sphere of influence reached Manchuria in the east and Sinkiang in the west; its zone of concentration is located in the section of the Yellow River Valley between T'ung Kuan and Taihang Shan that divides the province of Honan from Shansi.

It is precisely within this zone that the simplest type of painted pottery, in shape as well as in patterns of decoration, is located.<sup>19</sup> Liang Ssu-yung, followed by G. D. Wu, was of the opinion that the painted pottery



discovered by him at Hou-kang in Anyang represented the earliest stage—at any rate earlier than the Yangshao group. Wu went a step further and assigned definite dates to the Hou-kang cultures in his chronological table of Chinese prehistory.<sup>20</sup> It seems to be quite definite that, as far as present knowledge goes, neither in the northwest from Kansu to Sinkiang nor in the northeast from Hopei to the Liaotung Peninsula has there been discovered, up to the present time, any painted pottery culture simpler and more primitive than that found in Hou-kang, located in the northernmost part of Honan province.

What is particularly baffling in regard to the distribution of the Yangshao culture is its complete absence in the province of Shantung. In spite of the many efforts made by a number of archaeologists to find Neolithic remains in this peninsula, no trace of painted pottery has ever been discovered there. Shantung is China's Holy Land, not merely for the reason that Confucius was born there; it was also, as many historians would testify, the cultural center of China in the first millennium B.C. And, what is even more important, it was most probably the homeland where the culture of the Shang dynasty had its early growth.

It was precisely in this province that another phase of the prehistorical culture of North China was discovered by the young archaeologist Wu Gin Ding (G. D. Wu) in 1930, just after he was graduated from the Tsing Hua Research Institute. This phase is known as the Lungshan culture after the name of the village near which the first and the type site is located. The most characteristic feature of this culture, as of the Yangshao remains, is its pottery; but unlike the Yangshao pottery, the Lungshan ceramics are mostly monochrome, of which the most distinguished group is pure black, lustrous, and thin. Subsequently, it was found that this culture also covered a wide area in eastern and northeastern China,<sup>21</sup> extending northward to the Liaotung Peninsula<sup>22</sup> and southward to the delta region of Hangchow Bay.<sup>23</sup>

Following this discovery arose the chronological problem of the relative sequence of these two prehistorical cultures in North China as a whole. The basic work in the field that determined the time relation of these two cultures was carried out in the Anyang region by members of the Archaeological Section of the Academia Sinica. Here were discovered many sites in which three distinct types of cultural remains were found in a successive deposition; they were: (1) the Painted Pottery culture, (2) the Black Pottery culture, and (3) the historical culture of the Shang dynasty, of which the white pottery has received the most attention from antiquarians.<sup>24</sup> In the stratified area of the Hou-kang site, three types of

relations of the three different types of cultures were observed: the superposition is either the Shang over the Yangshao, or the Shang over the Lungshan, or, thirdly, the Lungshan over the Yangshao. These orders have been found to exist wherever intact stratified cultural remains have been located. The reverse of such orders was not reported in any of the excavated areas within this region. So the sequence thus determined may be given as: the Painted Pottery culture as the earliest, followed by the Black Pottery culture, and then the historical Shang culture.

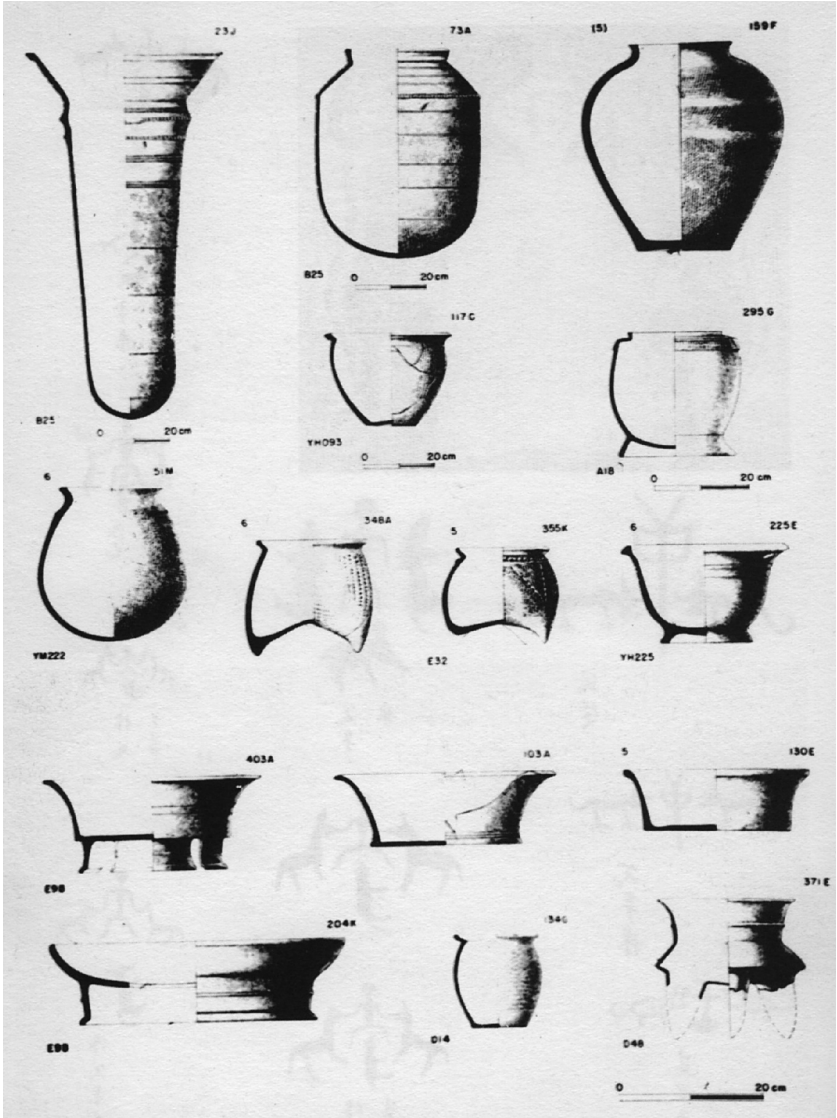
But it must be made clear at once: this established sequence has its geographical limitation.

Now about the earliest historical Chinese culture, the culture of the Shang dynasty. For quite some time it was thought that, from the latest phase of the Neolithic culture discovered in North China to the earliest phase of the historical remains discovered in Anyang, there was a close and almost immediate succession. The cultural sequence established in Anyang and confirmed in a number of other places has been usually taken as positive proof of the closeness in time of the Lungshan and the historical Shang cultures. But a more critical examination of their detailed contents, especially the pre-Shang and the Shang remains found in Hsiao-t'un, reveals the existence of a gap which might have been caused by interrupted development, a discontinuity which might be an indication of some time interval.<sup>25</sup>

What distinguished the historical remains of the Shang at Hsiao-t'un from the pre-Shang deposits found quite extensively in Anyang, including Hsiao-t'un, are the following six groups of cultural traits:

None of the above six cultural traits could be linked, as far as is known, in even a remote way to the Yangshao and the Lungshan cultures. They also differ among themselves in the degree of the suddenness of their emergence from a total obscurity in the Neolithic time to the foreground of the historical scene. Of these six groups, the ceramic craft especially needs some discussion. The nine types of pottery which occurred most frequently in the Shang (Yin) stratum were all novel as compared with the pottery forms of the black pottery in the bottom deposit underneath the Shang stratum (Fig. 1.3). The prevalent six types of the gritty and the black wares of the prehistorical period disappeared almost completely in the cultural stratum of the Shang period. The Shang potters discarded altogether the fine and delicate craft of producing the thin, lustrous, and beautifully turned

black ware. They went on experimenting with some inventions of their own and introduced for the first time in the history of ceramic art the use of kaolin clay, with which they produced the famous white pottery. They also made the earliest attempt to cover the external surface of the stoneware with an extra coating of glaze. It is true that methods used by potters of the preceding periods were still continued in the Shang time to produce certain types of wares for daily use, but there was a distinct change in both the style and the method of production of the more refined articles.<sup>26</sup>



**Fig. 1.3** Pottery types from Hsiao-t'un: above, nine common types from the Shang stratum; below, six common types from the pre-Shang stratum

Of the other five cultural elements which made their first appearance in the Shang dynasty, the writing system and the bronze may be discussed together. The general impression has been that these two cultural activities seem to have started almost simultaneously. As I have tried to show in another connection, their simultaneity is more apparent than real; and both of them must have had an earlier development from which their Hsiao-t'un phase was evolved. Taking first the problem of the bronzes found in Hsiao-t'un, it is obvious to anyone who has examined this problem that an earlier background must be postulated in order to explain the stage of development which the bronze of Hsiao-t'un attained. Among the Hsiao-t'un remains themselves, evidence was by no means lacking to show that the history of bronze foundry in this locality is divisible into two substages; and the earlier substage may lead back to a still more primitive phase.

The writing system of the Hsiao-t'un stage as found on the oracle bones, like the Hsiao-t'un bronzes, represents a development on a comparatively advanced level. It is of course a well-known fact that the Hsiao-t'un scripts are 1,600–1,800 years later than the earliest Sumerian writing; and in this time interval, the idea of keeping some written records might have migrated from the valley of the Tigris and Euphrates to the valley of the Yellow River. Still this does not explain how such a highly complicated system as the earliest known Chinese writing, composed of more than 2,000 characters and totally unlike the cuneiform scripts in either form or structure, should have appeared all of a sudden on Chinese soil. It is to be remembered that in the middle of the second millennium B.C., east of the Ural Mountains and the Indian peninsula, North China was the only literate spot in the whole region bordering on the Pacific. Even the most earnest diffusionist must prove his thesis by gathering evidence in the intervening region between Mesopotamia and the northeastern China plain before any convincing arguments can be made to support the idea of complete borrowing. Personally, I am more inclined to believe that the birth of all great civilizations, in the past as well as the present, is due to cultural contact. But before we accept this as true of any particular civilization, no effort should be spared to collect all available data in order to examine in detail the process of actual growth. In China's past, only a small area has been properly investigated up to the present time, and, even in this area, the task is hardly half done. In fact, just when scientific data were being accumulated in the middle 1930s, the endeavor was brought to

a sudden end by the Japanese invasion.

And now, after a lapse of almost 20 years since World War II started in the Far East, we are still dependent upon the materials collected in the brief span of 9 years (1929–1937) when the Academia Sinica excavated in Anyang and its adjacent region. In many key areas, although there have been plenty of fruitful lootings, hardly any properly conducted archaeological excavations have taken place. There is scarcely any doubt that our urgent problem is still to look for new facts so that the sudden emergence of the bronze industry, as well as the writing system, may be explained on a more substantial basis.

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## Footnotes

### 1

The more important papers which reflect the spirit of this period were collected by Ku Chieh-kang in *Ku-shih-pien* (in Chinese), of which the first volume was published in 1926. Ku wrote a lengthy preface to this unique publication; it is mainly autobiographical, dealing with the development of his own interest in

historical studies. A. W. Hummel, who translated this preface into English with the title *The Autobiography of a Chinese Historian*, said in the introductory remarks to his translation: "It is a critical résumé of all the currents of thought that have swept over China in the past thirty years." Hummel's translation was published in 1931 in the Sinica Leidensia Series.

2

In the *Bulletin of the National Research Institute of History and Philology of the Academia Sinica* (in Chinese), Vol. I, No. 1 (1928), Fu Ssu-nien, the founder and the first director of the Institute, discussed in the publication notice of the bulletin the general background of historical researches in China and expounded the urgency and necessity of the adoption of a new method and a new approach for the continuous advancement of this branch of Chinese learning.

3

Weidenreich [1]. For a general account, see also *Apes, Giants and Man* (Chicago, 1946) by the same author, especially Lecture IV on the "Human Races and Principles of Their Classification and Origin," pp. 67–91.

4

Weidenreich, "On the Earliest Representatives of Modern Mankind Recovered on the Soil of East Asia," p. 170.

5

Professor Hallam L. Movius, Jr., of Harvard University, has written to tell me that, in his opinion, "the time when this locality (that is, the Upper Cave at Chou-kou-tien) was occupied would fall closer to 10,000 B.C. than it would to 20,000 B.C. This fact is conclusively shown by the fauna."

6

Weidenreich, "On the Earliest Representatives of Modern Mankind Recovered on the Soil of East Asia," p. 173.

7

Hooton [2].

8

*Shan-hai-ching* (in Chinese), Part II, Book 17, p. 80. Ssu-pu-ts'ung-k' an edition (Shanghai, 1919–1929).

9

*Ibid.*, "Notes on 'Mao-min,'" by Kuo P'o.

10

Homer H. Dubs, *Works of Hsiüntze*, in Book V, p. 69, "Against Physiognomy"; the quoted sentence is translated as, "The physiognomy of Hung Yao was such that the skin of his face could not be seen." The footnote attached to this sentence says, "too hairy." The above work was published in 1928 in Probsthain's Oriental Series (London) as Vol. XVI.

11

Chavannes [3].

12

See, for instance, Waley's [4]; on the people of Tao-chou, the author commented,

“The population was largely aboriginal and the dwarfs were perhaps Negrito similar to those of modern Malaya.”

13

This well-known specimen has been reproduced in many of the European and American catalogs on Chinese bronzes. Koop's [5] gives a good reproduction in Pl. XVI.

14

Davidson [6]. See also Black's earlier report in 1925, “On the Human Skeletal Remains from Yangshao Ts'un in Comparison with Recent North China Skeletal Materials,” *Palaeontologia Sinica*, Ser. D, Vol. I, Fasc. 3 (1925), p. 298.

15

Licent [7].

16

Weidenreich [8].

17

Kwang-chih [9], gives a tabulated summary of percentages of occurrence of the shovel-shaped incisors.

18

J. G. Andersson summarized his main archaeological works in China in a monograph published as No. 15 of the *Bulletin of the Museum of Far Eastern Antiquities* (Stockholm, 1943) under the title, “Researches into the Prehistory of the Chinese.”

19

In “Researches into the Prehistory of the Chinese,” Andersson expressed the opinion that “the problem of pottery painting in the Far East does not begin with Yangshao, but with the hanging triangle of Ch'i Chia P'ing,” (p. 282; Pl. XXXVII, 2). Since 1943, however, the chronological position of the Ch'i Chia remains, as interpreted by Andersson, has been definitely proved to be untenable by the discovery of Hsia [10]. It may be noted here that, as early as 1938, G. D. Wu already mentioned the fact that the specimen of the Hou-kang painted pottery, first described by Liang Ssu-yung, consisting of a few parallel vertical lines, is the simplest of its kind that has been discovered in the whole of North China including Ch'i Chia P'ing. See also note 20.

20

Wu [11]. See Pl. V; also the chronological table at the end of the book.

21

Ssu-yung [12], pp. 59–79.

22

Yang-Teou-Wa [13]. Figure 27 on p. 48 of this report reproduces a photograph of the oracle bone discovered at this site, located west of Port Arthur in the southern tip of the Liaotung Peninsula.

23

Shih Hsin-keng [14].

24



Liang Ssu-yung [[15](#)], pp. 609–626.

[25](#)

Li [[16](#)], pp. 1–14.

[26](#)

Li [[17](#)].

## 2. Origin and Early Development

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(1)

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In the last 30 years, field archaeology in China has uncovered the remains of the Shang dynasty, datable to the middle and the latter part of the second millennium B.C. It has been found that Chinese civilization as represented by these remains, located in the northernmost part of Honan province and north of the Yellow River, was very advanced and had already attained maturity, with a complete mastery of the technique of casting bronze, the possession of an independent writing system, and an efficient and complicated military and political organization; it was also characterized by an abundance of material well-being, a remarkable manifestation of a highly sophisticated decorative art, an exacting social system, and a theocratic religion dominated by excessive devotion to ancestor worship. It was a civilization full of vitality and vigor; although not without elements of cruelty and monstrosity, it had nevertheless adequately prepared the ground for the coming of a humanistic philosophy that found its ablest exponents in Confucius and his school in the following Chou dynasty.

Is the civilization of the Shang dynasty homogeneous, autochthonous, and entirely independent of outside influence? My answer to this question is an emphatic no. Let me discuss it in some detail.

It is a well-known fact that, at the close of the Neolithic age, North China was divided into at least two cultural zones, with a possible third one which still needs further clarification by more archaeological evidence. In a

paper which I read before the Eighth Pacific Science Congress in 1953, I pointed out the fact that during this period:

In the northwest and along the Sino-Mongolian border was the culture first developed by the Painted Pottery people, and most probably further elaborated by the Hsia, the first of the Chinese dynasties, which preceded the Shang. To this dynasty the earliest Chinese bronzes and bronze foundry were usually attributed both according to the historical narratives and the antiquarian's account. Most probably also, the people of this dynasty believed in and practiced totemism, in the light of some recent interpretations of certain folk literature that survived in the various compilations of the Chou philosophers.<sup>1</sup> The center of the second tradition is to be located near the Eastern Coast and was represented by the Black Pottery folk who survived in the historical time as the Eastern I, also known as the Squatting Barbarians in the early documents....

But the forerunners of the Shang dynasty could not, by any historical or archaeological evidence, be positively identified with either of the above traditions. The founders of the Shang dynasty were probably the earliest Chinese who developed the kneeling posture into a sitting habit, known later among the Japanese as *seiza*. Whether they learned this from the Egyptian scribes or developed it independently remains to be investigated. It seems to be pretty certain that at first the ancestors of the Shang dynasty conquered the Eastern I and absorbed some of their art tradition; in return, they also taught them a new technique of warfare, on the condition, of course, that they should fight under their leadership. With this newly trained army, the Shang conquered the Hsia further west, and subsequently learned from the Hsia whatever was worth their while learning. So the dynastic splendor of the Shang is the result of the coalescence of three distinct cultural traditions: the Eastern I, the western Hsia, and the proto-Shang....<sup>2</sup>

The foregoing statement was based mainly on the study of the decorative art of the Shang dynasty, especially the two fragments of human figures carved in stone, recovered respectively from the dwelling site of Hsiao-t'un and the cemetery site of Hou-chia-chuang (Fig. 2.1a, b), with additional confirmatory evidences from bone carvings and pottery decorations.



**Fig. 2.1a** Fragment of human figures in stone from Hou-chiachuang. **b** Fragment of human figures in stone from Hsiao-t'un

The economic conditions of the three types of community in the Aëneolithic and protohistorical periods—the Yangshao, that is, the Painted Pottery culture; the Lungshan, the Black Pottery culture; and the Hsiao-t'un, the Shang culture—are clearly reflected in the faunistic remains collected from these sites. The fauna of the Yangshao remains consist only of pigs, dogs, and cattle; neither sheep nor horses were found.<sup>3</sup> In Ch'eng-tzu-yai,<sup>4</sup> the type site of the Black Pottery culture, the list of the animal bones includes those of pigs, dogs, sheep, oxen, and horses. In both Yangshao and Ch'eng-tzu-yai, deer were also found; whether they were domesticated or not is not clear. On the whole, bones of wild animals were rare in both of the prehistorical sites. This is certainly an indication of a quiet sedentary life, devoted entirely to agriculture and the keeping of a few domesticated animals; if there was any game hunting, it was limited to the hunting of a few deer.

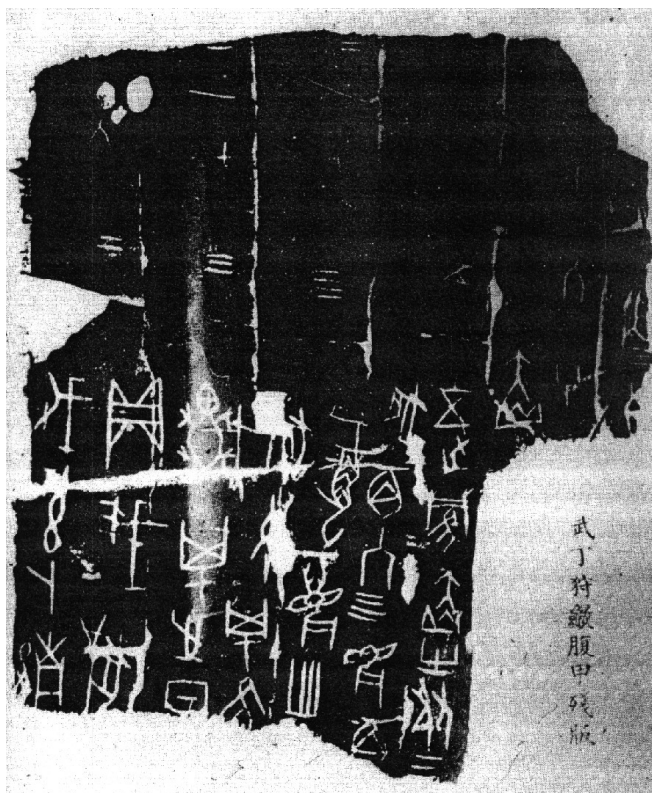
But the faunistic assemblage from the Shang remains<sup>5</sup> at Hsiao-t'un is much more remarkable, not only for its greater variety of domesticated animals—for it includes oxen and buffalo, sheep and goats, dogs and horses, and two varieties of pigs; but there is also an impressive list of wild animals, ranging from monkeys to whales, and comprising bears, tigers, leopards, tapirs, elephants, rhinoceroses, many varieties of deer, foxes, badgers, and so forth. The whole list of the mammalian collection, including both the wild and the domesticated group, numbers no fewer than 29 species, according to the latest estimate of the eminent paleontologists

Dr. C. C. Young and the late Pierre Teilhard de Chardin.

The great abundance and variety of the faunistic remains from Hsiao-t'un,<sup>6</sup> especially of the undomesticated group, may be taken as an unmistakable index to the life of a people given to wild game hunting. So it is obvious that the ruling house of the Shang dynasty must have been somewhat different, culturally at least, from the peasants of the Aëneolithic Yangshao and the Lungshan periods. This is confirmable not only by the obsequies of the members of the royal families but also by the oracle bone inscriptions. In *Archaeologia Sinica*, Number Two, IIB, 2908 (Fig. 2.2), there is on record the following inscription:

- Divine on the day Wu-wu
- Ku made the inquiry
- We are going to chase at “Ch’iu”; any capture?
- Hunting on this day, (we) actually captured:
- Tigers, 1;
- Deer, 40;
- Foxes, 164;
- Hornless deer, 159;
- and so forth....

Following the above records are some more inscriptions not yet decipherable. The inscription quoted is a sufficiently clear example that bears witness to the royal passion for hunting. This particular record is attributed by Professor Tung Tso-pin to the reign of Wu-ting of the fourteenth century B.C.<sup>7</sup> In another inscription of the same period, it is recorded that two tigers were captured; the largest number of deer shot in one chase during this reign is 162.<sup>8</sup>



**Fig. 2.2.** Ink rubbing of the inscribed plastron about King Wu-ting's captures in a hunting expedition at "Ch'iu"

Hunting records are frequently found in the oracle bone inscriptions; they were taken down from various periods and by different kings; so this passion for big game hunting was really a tribal habit shared in common by all the members of the royal house instead of being the idiosyncrasy of an individual king.

The royal passion for sports may be also testified to by the fact that, underneath the wooden chamber where the royal coffin was placed, there were always sacrificial pits in which large dogs accompanied by big adult human males were sacrificed. These men and dogs were the king's company in his lifetime; as they followed him in his moments of pleasure, so they accompanied him to another world (Fig. 2.3).



**Fig. 2.3** Floor of the wooden chamber of HPKM: 1001, Hou-chia-chuang

Thus it could not be considered as a mere coincidence that with the coming of Shang there was a sudden efflorescence of animal art. This art must have been developed with a whole tribal tradition behind it: the passion for hunting and also for keeping wild animals alive; then, at the death of the master, all followed him to eternity. Once correlated with this tradition, the animal art of this period becomes much more intelligible.

If the Shang culture was totally different from the Yangshao and not exactly the same as the Lungshan, the question naturally arises, where was this culture first developed? The question sounds complicated, so the answer requires a ramified search.

In my paper on the “Diverse Background of the Decorative Art of the Shang [Yin] Dynasty” which I have cited above, I tried to show that the animal art found on the Shang bronzes was most probably derived from wood carvings. The imprints left on the pounded earth in the royal tombs were originally the decorative parts of perishable materials, made up mostly of leather, textiles, and wood (Fig. 2.4). Although the wooden chamber which housed the royal coffin has vanished with only minute

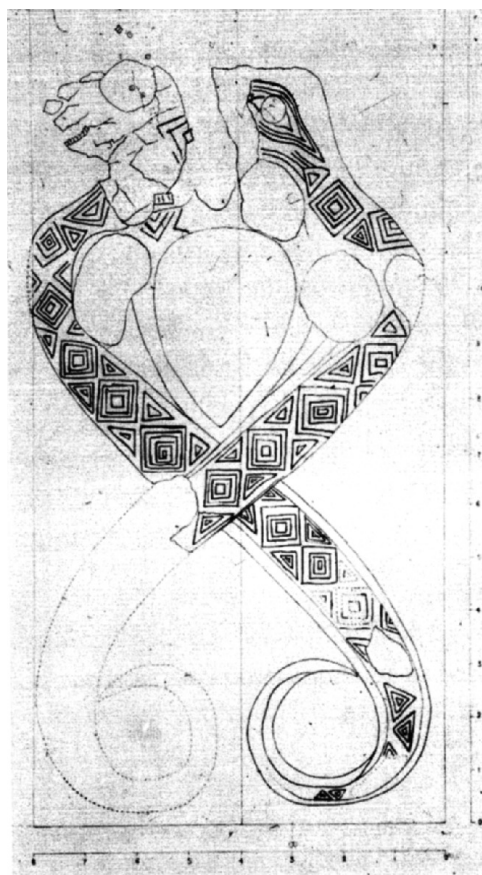


fragments left here and there, still these are sufficient to prove that the inside of the chamber was originally decorated. So the existence of a wood-carving art is beyond dispute.<sup>9</sup> A study of the imprints on the pounded earth from the various tombs proves that the Chinese decorative art at this stage of its development was already a commingling of several traditions; a similar condition is also reflected in the bone and stone carvings. Among the sundry traditions, the one with an obvious Western affiliation usually attracts the attention of the archaeologists first. Several important examples under this category may be mentioned; of these the *fei-i* monster (Fig. 2.5), developed as a decorative pattern with one head, *t'ao-t'ie* fashion, and two intertwining bodies, may be taken as the first instance. This pattern was traced out on the top of the wooden chamber in HPKM: 1001 of the Hou-chia-chuang royal cemetery, and is certainly the earliest example of its kind in the art history of China. The pattern underwent an evolution in China and was transmitted in various versions in later times. It reappeared in the famous Wu Liang Tz'u's two incised human figures,<sup>10</sup> the lower parts of which are made up of two long tails intertwined with each other. But the earliest example of this pattern as found in the royal tomb was already more than 1,000 years later than those discovered in the Middle and the Near East. So its ultimate origin must be traced to the Mesopotamian region; and it is quite likely that, like the gold-foiled handle from Gebel el Tarif of Egypt, decorated by two intertwining snakes, which Henri Frankfort thought was of Sumerian derivation,<sup>11</sup> the *fei-i* pattern of the Shang art was inspired from the same origin, modified to some extent to suit the Chinese tradition.



**Fig. 2.4** Drum and musical stone discovered together with remnants of their hanging frames in HPKM: 1217, Houchia-chuang



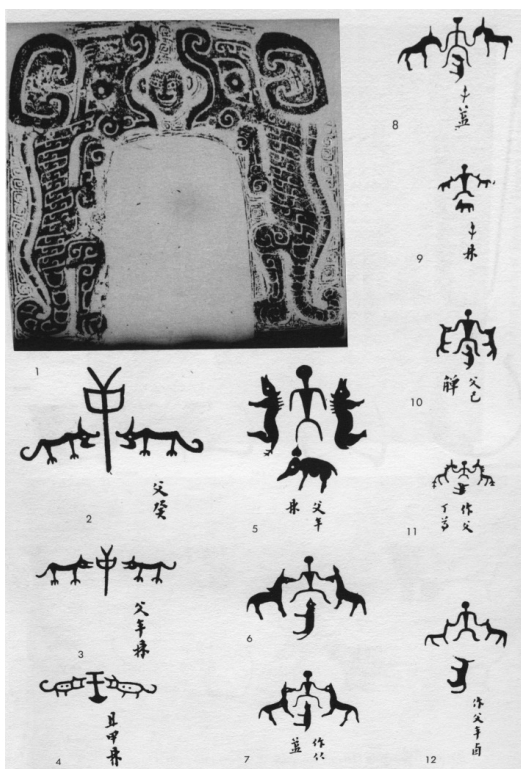


**Fig. 2.5** *Fei-i* pattern traced from the remnants of a disintegrated wooden article in one of the big tombs of Hou-chiachuang

Another motif that appeared among the traces of the perishable wood-carving art is a pair of tigers, arranged antithetically with tails pointing toward the center and an animal face between the tigers near the top. The whole pattern was badly decayed and almost beyond recognition, but careful tracing work recovered it. The accuracy of the tracing was proved by the discovery of a similar pattern on a big bronze tetrapod recovered in a village very near to the royal cemetery (Fig. 2.1). This is evidently a degenerated version of the famous Hero and Beast motif, which also originated in Mesopotamia and was then transmitted to Egypt and later immortalized in the Mycenaean time by the famous Lion Gate.<sup>12</sup>

It is clear that, as it appeared on the Chinese bronzes, the motif of the

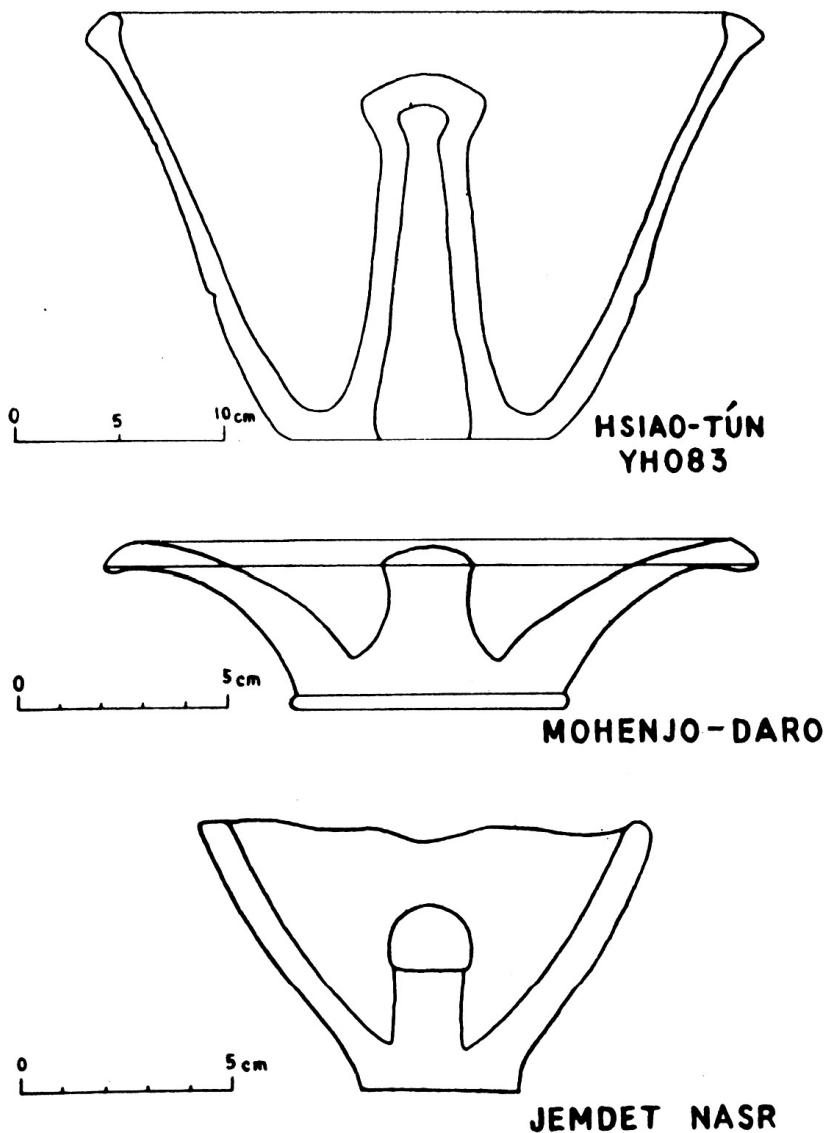
hero subduing the beasts had already undergone important changes. In place of the figure of the hero, the character *wang*, meaning the king, might appear; and the lions on both sides were replaced at first by tigers, and later by a pair of boars or even dogs. In some cases the hero was given an actual human figure but was also accompanied by an additional beast placed under the figure of the hero. In other cases some other character, not yet decipherable, was substituted for the pictorial character for the king. All these versions, which appeared as incised symbols on many bronzes, were, it seems to me, simply variations of the original Mesopotamian motif (Fig. 2.6).



**Fig. 2.61.** Ink rubbing of the decorative pattern on the standing lug above the rim of a tetrapod discovered in the neighborhood of Hou-chia-chuang; 2-12, bronze inscriptions from Jung Keng's *Chin-wen-pien* (Inscriptions on Bronzes) (2nd ed. rev. and enl.; Ch'ang-sha, 1939), supplementary chapter, p. 26

The most interesting proof of China's contact with the West in the second millennium B.C. or even earlier comes from some pottery forms. The example I have in mind for illustration is a jar cover, in the shape of a

flower pot, with a phallic-shaped handle standing upright in the center inside the pot. This type of cover, as made known by McKay and publicized by Gordon Childe,<sup>13</sup> was also found in Jemdet Nasr and Mohenjo-daro. Comparing the pottery forms of the Shang period with those of the Middle East and the Near East regions, one may find a number of instances that exhibit close resemblances; but I take this one as the most indisputable example indicating cultural contact, as no imaginable reason could be conceived for the independent invention of covers so similar in structure in two different and widely separated parts of the world (Fig. 2.7).

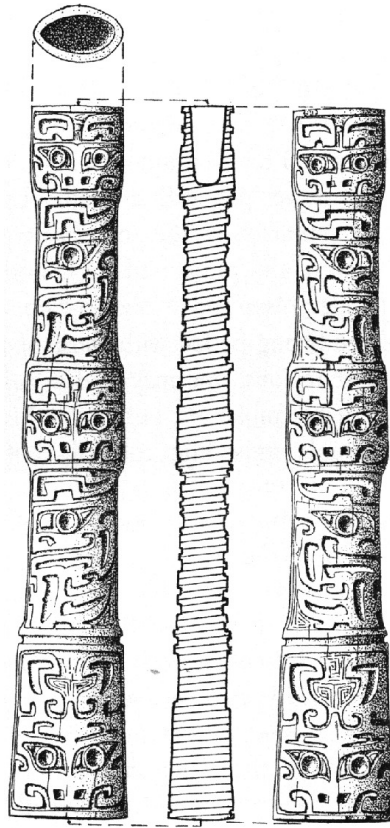


**Fig. 2.7.** A type of jar cover found in Jemdet Nasr, Mohenjo-daro, and Hsiao-t'un. (The bottom one from *New Light on the Most Ancient East*, by V. Gordon Child [New York: Frederick A. Praeger Inc., 1952], p. 132.)

All these evidences, however, show only the existence of some contact between the cultures of the Near East and the Far East. The nature of such contact could scarcely be inferred from the above evidences; it may have been a very remote one resulting in partial imitations, such as most of the

instances cited actually were. The real foundation of the Shang culture was still in the Asiatic East, which also gave rise to and inspired the major art tradition of the whole Pacific basin. The source of this tradition is most probably to be found in the lost art of wood carving of China's past. I have dwelt elsewhere on the main features of this particular tradition in some detail; as they are so important in the present connection, let me cite some of the samples used for the illustration of this thesis.

The unique bone handle which I first uncovered in 1929 still remains the most important example of its kind that is nearly complete. The most remarkable features of this handle are the ornamental patterns (Fig. 2.8). It is about 15 cm in length and almond-shaped crosswise, with a socket at the smaller end that measures 16 mm deep; the cross section of the socket, which is lentil-shaped, measures 16 mm by 8 mm at the maximum. The outside of this handle is completely carved from top to bottom, on both sides and in five units; three of the units are composed of *t'ao-t'ie* masks, each consisting of a pair of such masks joined at the back and facing opposite sides. These three units are separated from each other by two longer and slenderer units of *t'ao-t'ie* in profile, each with a body attached to the head. These five units of decorative patterns, essentially similar to one another, pile up on the handle with a vertical succession that reminds one of the arrangements of the animal heads carved on the totem poles found on the northwestern coast of Canada, except that the composition of the Hsiao-t'un handle seems to carry a more subtle rhythm.



**Fig. 2.8** Patterns of carved decoration and sections of a bone handle from Hsiao-t'un

The decorative patterns and their arrangement described above suggest three principles which have been found to be basic in most Pacific arts; besides the piling up of similar designs in vertical succession, there are the junction of profiles of the animal body, split into two symmetrical halves on a curved surface or a flat one, and, in addition, a rigid symmetry and a regular rhythm. All these three principles found their fullest expression in the bronze works of Shang and later times and in many of the wood carvings of the Pacific region.<sup>14</sup>

Let me give some more examples from the excavated bronzes of Anyang. Of this collection there are many square *yi* on record. Each of the square sides was cast like a flat piece of wooden plank (Fig. 2.9a). All the sides are fully decorated with the head of an animal either with or without a body as the central motif, surrounded by some minor decorative patterns. The main theme on the *yi* illustrated is the treatment of the animal's head; it

is an attempt to render a three-dimensional object on a two-dimensional background by cutting the head into two profiles and joining them together in a perfectly symmetrical arrangement. The effect is almost exactly the same as that of the house-front painting of the Kwakiutl, cited by Franz Boas in his work on *Primitive Art*.<sup>15</sup> On the Chinese bronzes, such animal heads have been called *t'ao-t'ie*, but they evidently had more realistic names in earlier times, names more suggestive of the true nature of these animal representations.



**Fig. 2.9a** Square *yi* of the Shang dynasty from Hou-chia-chuang. **b** Square *yu* of the Shang dynasty from Hsiao-t'un

The square *yi* of the Shang time is almost always fully decorated. In one of my earlier papers<sup>16</sup> I have tried to show that, as far as the shapes of the excavated bronzes from Hsiao-t'un are concerned, the majority of these in the round-bodied group derived their origin from the pottery forms, while the angular type—both the square and the quadrangular bronzes—copied their forms as well as their patterns of decoration from some wooden prototypes. It was also pointed out in this paper that the angular type was always fully decorated (Fig. 2.9a, b), while the round type was fully covered only rarely, and more frequently left completely plain (Fig. 2.10a, b). An obvious inference from all these discoveries would be that the angular-bodied bronzes not only inherited the shapes of the wooden prototypes but also carried on the method and patterns of decoration of the wood carvers, while the round-bodied articles cast in bronze, shaped mainly after the ceramic tradition, acquired their ornaments much later.





**Fig. 2.10a** *Ting* tripod from Hsiao-t'un. **b** *Ku* from Hsiao-t'un

It may be further inferred that, as the members of the ruling house of Shang were probably all genuine lovers of wild game hunting, such habits were very likely nurtured in a forest environment, which would also be best fitted for the development of a wood-carving art. It is most interesting to compare the types of animal patterns on the bronzes with the hunting records in the oracle bone inscriptions. Tiger and deer motifs were constantly met with on the chariot pieces as well as on the big bronzes; the tiger was frequently found on musical stones, inlaid and painted decorative pieces, of which the substances had disappeared long ago but whose impression had been left on the stamped earth. The abundance of deer is proved not only by the hunting records; it is even better testified to by their skeletal remains, quantitatively second only to the domesticated pigs among the remains of Hsiao-t'un. These animals, as we know, are essentially woodland creatures; wherever they roamed, their presence may be taken as an indication of some forested region not far off.

The dominance of the animal motifs, however, did not succeed in obliterating completely the geometrical arts which prevailed in North China before the Shang. Authentic Shang bronzes were sometimes covered exclusively with spirals or zigzags (Fig. 2.11; Fig. 2.12). The most important example that testifies to the survival of geometrical decoration in the Shang dynasty is a fragment of a stone human figure in a kneeling-sitting posture, fully dressed in robe and skirt; the border of the garment and the skirt and the cuff of the sleeve are all ornamented with a band composed of double chevrons and interlocked T-patterns (Fig. 2.4a;



Fig. 2.13a). All these patterns are incised in narrow lines, hardly wider than 1 mm; most of the lines thus rendered are short and straight, and at each turning the incision usually starts anew. There is no continuous curvilinear line in the whole composition.



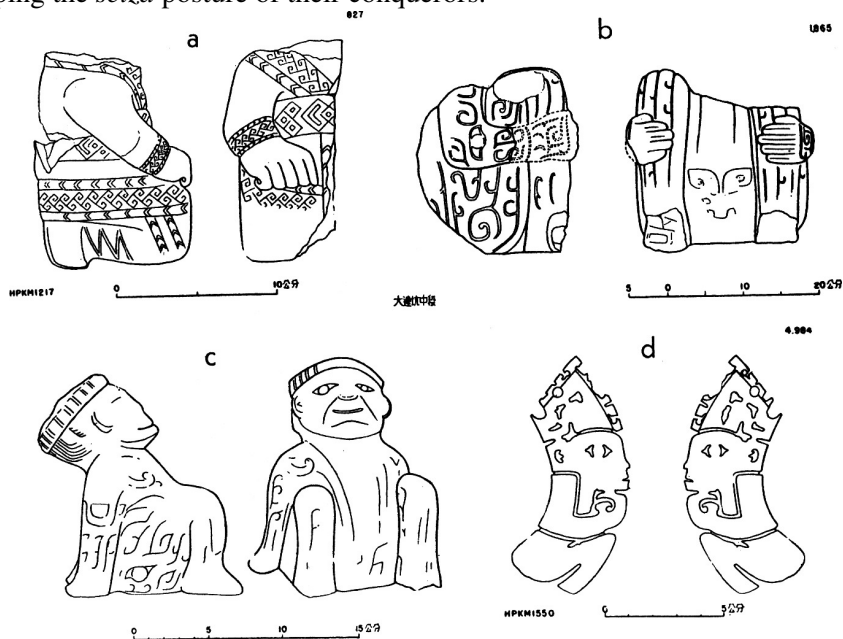
*Fig. 2.11Tzu* decorated with spirals only



*Fig. 2.12P'an* from Hou-chia-chuang with geometrical patterns

This kneeling-sitting posture, as distinguished from the squatting-sitting stone torso (Fig. 2.13b) discovered at Hsiao-t'un, is singularly significant in that it serves to link the daily habit of the ruling class of the Shang dynasty with the decorative art found at the closing phase of the Neolithic time, especially in the Black Pottery region. In the historical period, as we have

noted, the indigenous inhabitants who inherited the old territory of the Black Pottery people on the eastern coast were known as the Eastern I, or the Squatting Barbarians. In other words, while the Shang people adopted the decorative art of the coastal culture to a limited extent, the native inhabitants of the coast had stuck to their old habit of squatting instead of aping the *seiza* posture of their conquerors.



**Fig. 2.13** Human figures in stone from Anyang: **a**, **d**, from Hou-chia-chuang; **b**, from Hsiao-t'un; **c**, from Ssu-p'an-mo

The squatting torso from Hsiao-t'un, however, cannot be identified with the coastal culture, if we take the Black Pottery tradition as its main representative. Unlike the Hou-chia-chuang figure, it is entirely devoid of any sartorial covering, except perhaps an apron in the front below the waistline. All four limbs are covered by carved tattooing marks of disintegrated patterns reassembled around an eye design near the joints.

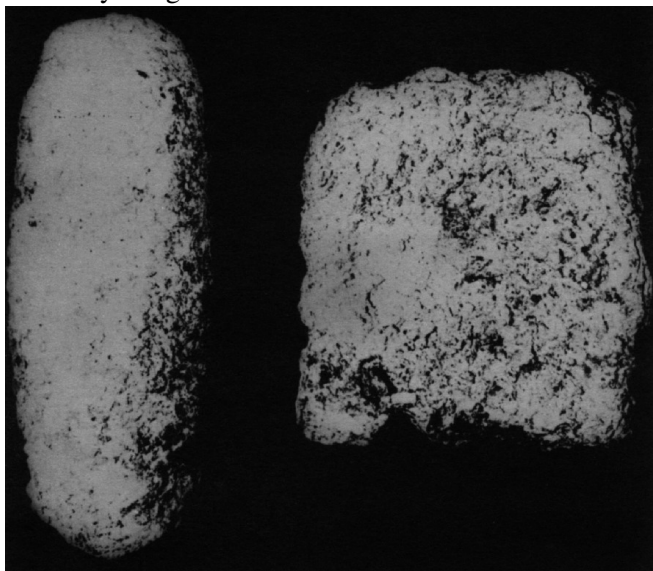
Tattooing as a cultural trait survived among many indigenous tribes south of the Yangtze River in early China. The first century B.C. historian, Ssu-ma Ch'ien, made it known that the native people of Chekiang, whose culture the uncles of the founder of the Chou dynasty adopted, practiced tattooing. In the classic *Li Chi* there occurs this general statement: "The Easterners are called I (夷); they let their hair loose, and tattoo their bodies."<sup>18</sup> On the basis of this statement, it seems to be justifiable to

identify the Hsiao-t'un torso with the squatting Eastern I; however, additional evidence is needed to show that the tattooing patterns found on the torso of Hsiao-t'un were evolved from a prehistorical prototype before such identification can be confirmed. The southern origin of this particular custom is probably indisputable, as many of the aboriginal tribes south of the Yangtze River are still tattooing their bodies.

This leads us to another aspect of the culture of the Shang dynasty as a whole. How large a portion of its total content may be considered as related to the south or of southern origin? Twenty years ago, I stated in the *Preliminary Reports of Excavations at Anyang* that the shouldered celts, tin ingots, rice, elephants, and buffalo were all apparently related to the south.<sup>19</sup> As the matter stands now, and after 20 years of discussion and reflection, it seems proper that the case should be restated. Rice was cultivated in northern Honan as early as the Yangshao time; however, no domesticated buffalo were discovered contemporaneous with this cultivation.<sup>20</sup> In the Shang time, on the other hand, according to recent interpretation of some passages in the oracle bone inscriptions, not only was there rice cultivation but the fields were actually ploughed, and the ploughs were drawn by domesticated buffalo.<sup>21</sup> The character for rice was identified in the oracle bone inscriptions. In this connection it might be fitting to quote the authentic opinion of the authors of "On the Mammalian Remains from the Archaeological Site of Anyang." In a note at the end of their report, they said: "The discoveries from western Honan, northern Shantung, and eastern Szechwan support the idea that in Anyang, *Bubalus mephistopheles* represents an old indigenous type (artificially prolonged by domestication) rather than an imported foreign form."<sup>22</sup> So it would seem that, although the rice cultivation may have originated in the south, it may have been improved and further developed in the Yellow River basin. The statistical study of the faunistic remains of Hsiao-t'un by C. C. Young shows that *Bubalus mephistopheles* is one of the three mammals that ranked highest numerically in our collection, the individual specimens exceeding 1,000 in number.<sup>23</sup> Yet buffalo were never used for sacrificial purposes; in the sacrificial pits, only *Bos exiguus* was found.

The problem of the tin remains the same as 20 years ago; no new data can be added (Fig. 2.14). It may be emphasized once more that the very fact that this mineral was stored in ingot form is an indication of its being imported from some distance. The copper was evidently smelted right at the spot of the foundry near the site of Hsiao-t'un, as malachite ore was more than once discovered. This ore was apparently brought to the foundry without any preliminary reduction. If the tin was imported, the further

question is whether it was imported from the south or from some other quarter. Old gazetteers reported the production of tin in North China within the radius of a few hundred kilometers of Anyang.<sup>24</sup> Mining geologists are not totally prepared to accept such reports, but neither are they prepared to deny their accuracy altogether.



**Fig. 2.14** Tin ingots from Hsiao-t'un

Elephants, like buffalo, might have been native Anyang beasts, too, at least in the Shang time. As for shouldered celts, they might have inspired certain types of bronze weapons of the Shang dynasty.

In addition to the 1933 list, one item of real significance should be added, namely the tortoises whose plastrons were used for divinatory purposes. My colleague Professor Shih Chang-ju recently argued for an independent origin of plastronomy,<sup>25</sup> as a contrast to the practice of scapulimancy of the Lungshan culture. Whether one agrees with him or not, the southern origin of *Testudo anyangensis* seems to be indisputable. If these shells were sent to the royal court as tributes from various vassal states, as abundantly proved in the oracle bone inscriptions and recently elucidated by Tung Tso-pin,<sup>26</sup> it is a sure proof that the Shang Empire had a large slice of territory south of the Yangtze River, over which it might have exercised some political control.

To sum up: my thesis is that the culture of the Shang dynasty is a very composite affair and represents a fusion of many cultural streams. The fundamental stratum upon which the Shang culture was built is rooted deep

in the prehistorical past; the development of the rice culture and the whole complex attached to it illustrates the fact that the economic basis of the Shang Empire is typically Eastern Asiatic and developed in *situ*, as shown by the various eminent workers in the field, such as Andersson, Teilhard de Chardin, and Young, and reaffirmed by the oracle bone inscriptions. The ruling house of the Shang dynasty had a passion for big game; in the royal park at Hsiao-t'un, the collection certainly included tigers, elephants, monkeys, many species of deer, foxes, wolves, wild boars, and such rare animals as *Budorcas taxicolor lichii*. Their hunting territory must have covered a very large region including large tracts of heavily forested region and extending to places like eastern Mongolia and southern Manchuria. From these quarters, and also from the eastern seaboard, the ancestors of the Shang dynasty acquired some vague knowledge of foreign countries. The Shang people might have been the earliest Chinese to make extensive use of chariots both for hunting and for war purposes, although it was as yet impossible to prove that the Shang people were the first to introduce metals. But it is beyond any doubt that they improved the art and craft of the bronze-casting industry enormously; and the chief use they made of the alloy was to cast ceremonial vessels which were never equaled in any other parts of the world.

The basic problem concerning the genesis of the Shang culture has to do with the still undiscovered pre-Shang phases of the evolution of the Chinese scripts. In this connection, it must be remembered that, so far, only a very small area of North China has been properly investigated; if other key areas could be studied as thoroughly as the valley of the Huan River, it would certainly be only a matter of time until such fundamental problems would be solved.

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## Footnotes

1

In the fifth year of Yin Kung of Lu (Duke Yin), Confucius noted the following event in *Ch'un Ch'iu*: “The duke reviewed a display of the fishermen at T'ang” (*Ch'un Ts'ew*, translated by James Legge in the Chinese Classics series, V, Part I [London, 1872], 19). In his translation of this entry, Legge followed the standard interpretation. The original meaning of this version has recently been discussed by Mr. Ch'en P'an, Research Fellow of the National Research Institute of History and Philology; Fu Ssu-nien, Director of the Institute at the time, wrote a lengthy supplementary note to this paper and advanced the interesting theory that the Chinese character *wu* 物, used in this connection and in many other ancient texts, really had the meaning that the term “totem” has in modern ethnology. Fu's paper has been republished in the *Collected Papers of Fu Meng-chen* (in Chinese), IV (Taipei, 1952), pp. 236–240.

2

Li [1], p. 181.

3

Andersson [2], pp. 42–43.

4

Liang Ssu-yung, in the English summary of *Ch'eng-tzu-yai* (Nanking, 1934), p. 11,

gives the following list of fauna for the lower horizon:

*Canis familiaris* L. *Pseudaxis* cf. *hartulorum*.

*Lepus* sp. *Elaphurus menziesanus* Sowerby.

*Sus* sp. *Ovis changi* Teilhard and Young.

*Equus* sp. *Bos exiguus*.

*Hydropotes*.

Compare for stratigraphical details the Chinese original in the same report, p. 91.

See also *Ch'eng-tzu-yai: The Black Pottery Culture Site at Lung-shan-chen in Li-ch'eng-hsien, Shantung Province*, edited by Li Chi et al., a translation by Kenneth Starr of *Archaeologia Sinica*, No. 1 (1934) (Yale Publications in Anthropology, 52 [New Haven, 1956]).

5

Teilhard de Chardin and Young [3].

6

Young and Liu [4], pp. 145–152.

7

Tso-pin [5].

8

*Ibid.*, p. 14.

9

The late Mr. Liang Ssu-yung, in his copious field notes on the Hou-chia-chuang excavations, mentioned positive evidences proving that inside the wooden chambers that housed the coffins in all the big tombs within this cemetery area there were elaborately carved and painted decorations.

10

Jung [6]. See also Chavannes [7], Pl. XXIV.

11

Frankfort [8], p. 102; Pls. X, 16, and XXI, 41.

12

*Ibid.*, Pl. XIII, 23, 24; p. 102.

13

Gordon Childe [9], pp. 132 ff. and Fig. 65.

14

Boss [10], pp. 223 ff.

15

*Ibid.*, p. 239.

16

Li [11], p. 69.

17

Chavannes [12], p. 2.

18

Li [13].

19

Li [14], p. 576.



20

Andersson, “Researches into the Prehistory of the Chinese,” pp. 43–44.

21

Hou-hsüan [15], p. 81.

22

See note 31.

23

See note 31; see also Chang-ju [16].

24

Amano [17], p. 236.

25

Oral communications.

26

See also Pien [18], pp. 121–133.

## 3. The Bronze Age of China

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The bronze age of China, as far as present knowledge goes, ranges from the middle of the second millennium B.C. to the middle of the first millennium B.C. Actually, of course, it lasted much more than 1,000 years. But it is difficult to fix a definite date either for its beginning or for its end. In the past, students of Chinese bronzes were so completely charmed and dazzled by the splendor of the ritual vessels that they scarcely found any chance to ponder upon the possibility of a humbler history for these antiquities. But; like every other craft and institution, the bronze industry of China never was a gift from heaven; it emerged gradually and developed step by step. At least, modern archaeology is proving this to be the case.

### 3.1 Stratigraphy

The most reliable set of data available for a scientific study of this problem is no doubt the collection of bronzes from the Anyang excavations. Of the various localities which were excavated in Anyang; two are the most important. They are the dwelling site of Hsiao-t'un and the cemetery site of Hou-chia-chuang. While it was from the dwelling site that practically all the written records on oracle bones were recovered,<sup>1</sup> it was from the tombs that the significant collections of bronzes were made. During the Shang dynasty, the northwestern part of Hou-chia-chuang was used exclusively as a burial ground. In Hsiao-t'un, burials of a sacrificial type were also

discovered; although not comparable in magnitude with the Hou-chia-chuang big tombs; they were evidently contemporaneous with them. From these burials, a number of important bronzes were also recovered. So the great majority of the bronzes from Hsiao-t'un and Hou-chia-chuang are tomb furniture, buried together with one or a number of persons. Only occasionally was a hoard of bronzes discovered in a storage pit. Such hoards constitute only a small fraction of the total collection; specimens from the storage pits are not only limited in number but are also limited in typology.

For a long while, the exact relation of the tomb bronzes to the inscribed oracle bones, uncovered mainly from the cultural stratum of the Shang dynasty; at Hsiao-t'un; remained an enigma to the fieldworkers in Anyang. In fact, although more than a thousand tombs in Hou-chia-chuang and Hsiao-t'un were opened by the Anyang excavation party, none of them contained any inscribed oracle bones; a few inscribed bronzes discovered in the tombs, which seemed helpful for identification purposes, are again too meager for detailed investigation, as none of these inscriptions contains more than ten characters.<sup>2</sup> Thus the inscribed oracle bones and the beautiful big bronze vessels, in the opinion of the field archaeologists at Anyang, were only indirectly and partially associated.

This partial association was determined by a careful study of the content of one storage pit, EI6, discovered at Hsiao-t'un in the fourth season of the Anyang expedition (1931).<sup>3</sup> In this pit a large number of inscribed scapulae as well as plastrons, in addition to a small hoard of well-preserved bronze tools and weapons, were found together. As weapons and tools similar in type to this hoard were also found among the burial goods of Hsiao-t'un and Hou-chia-chuang, EI6 has served as a strong connecting link which definitely proves the contemporaneity of the bronze with the oracle bone records.

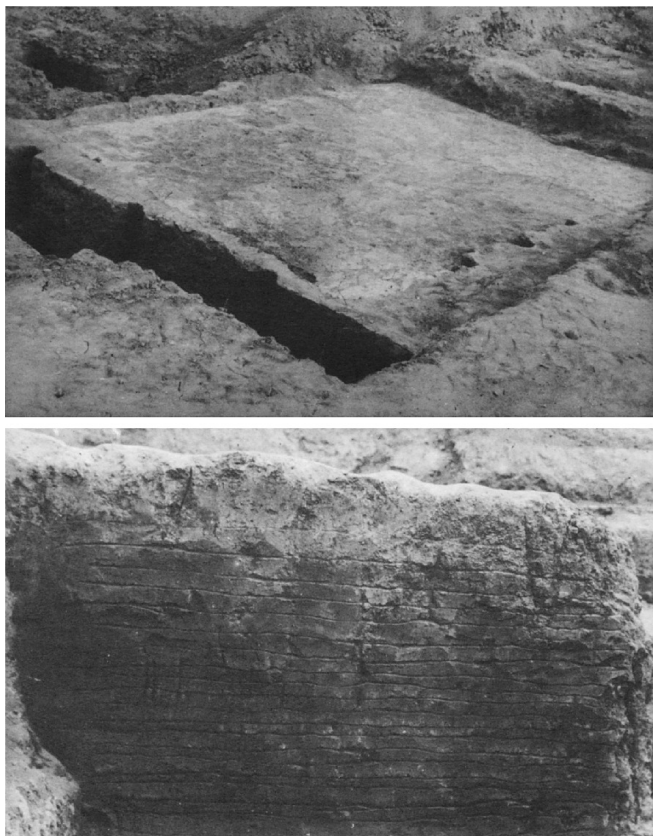
This link, however, connects these two cultural traits in only a general way; it supplies no details as to how closely the different stages of bronze development are related to the various periods of oracle bone inscriptions. It is fairly obvious that the industry of bronze foundry underwent a process of evolution during the time that the Shang dynasty had its capital at Hsiao-t'un. But by what criteria besides typology are these substages to be divided?

The answer to this question depends much, of course, upon our knowledge of the underground condition of the occupation site at Hsiao-t'un. The earliest settlers in this place were the prehistoric Black Pottery people, who lived in huts partly underground; besides pottery, they

manufactured bone and stone implements, but they possessed no knowledge of bronze or copper. This cultural stratum at Hsiao-t'un was first worked out by the Anyang excavation party; they discovered further that on and directly above this cultural stratum were the deposits of the metal-using Shang people.<sup>4</sup> This observation, however, is susceptible to two interpretations. It may be asked: Are the immediate successors of the Black Pottery culture at Hsiao-t'un the dynastic Shang people or their forerunners?

The establishment of Yin (namely, the locality at Hsiao-t'un) as the capital of the Shang Empire in the time of P'an Keng is an important historical event long familiar to students of antiquity and Chinese history; traditional chronology attributed its occurrence to the 15th year of P'an Keng's reign, which was approximately 1384 B.C.<sup>5</sup> Modern archaeology is naturally concerned with the problem of whether Hsiao-t'un was a deserted village or a populous city when P'an Keng cast his eye on that place and made the momentous decision to establish there the royal seat of administration. Hsiao-t'un continued as the capital city until the end of the Shang dynasty—a period of 273 years, about 7 years longer than the total reign of the Manchus.

It has been assumed, on a very substantial basis, that P'an Keng's new era coincided with a series of novel architectural activities (Fig. 3.1a, b), which left abundant traces among the ruins of Yin-hsü. The new method of building introduced in this new era was the adoption of pisé, which the field archaeologists in Anyang call *hang-t'u*. It is a method that is still extensively employed in all parts of China, wherever the clay is of a kind that can be stamped.



**Fig. 3.1.** **a** Building foundations of stamped earth, discovered at Hsiao-t'un: earth floor of a Shang dynasty house. **b** Building foundations of stamped earth, discovered at Hsiao-t'un: side view of the structure of the stamped earth, 20 layers in succession

The underground deposit of Hsiao-t'un, when uncovered, exhibited extensive foundations built of pisé; around these foundations were located many sacrificial pits, in which were buried both human and animal victims, accompanied in a number of cases by bronzes, pottery, and articles of bone and jade. Underneath the pisé foundations were found many subterranean pits and caches and sometimes even the remains of dwelling floors, which were undoubtedly earlier than the overlying stratum built of *hang-t'u*. The artifacts excavated from the various pits in the substrata often show no appreciable difference from authentic Shang finds but are decidedly different when compared with the premetallic remains of the Black Pottery period.

Thus, in many respects, the transition from the predynastic Shang

period to the dynastic Shang period at Hsiao-t'un happened without any concurrent changes in the material culture. The question is further complicated by the fact that the *hang-t'u* remains were built in several different periods, so it frequently happened that early dynastic Shang pits might be overlaid by late dynastic Shang *hang-t'u* buildings. It is not my purpose here to disentangle these intricate relations between the pre-Shang and dynastic Shang underground conditions. Suffice it to say that differences actually existed and have been found. Professor Shih Chang-ju, field director of the last three seasons of Academia Sinica's archaeological expedition to Anyang, says:

The normal stratification under the surface soil of Hsiao-t'un is composed of subterranean pits, caches, or houses as the lower layer, overlaid by a stratum of *hang-t'u* foundations. There are many instances of this type; they are quite extensively distributed under the surface soil of the Hsiao-t'un site.<sup>6</sup>

As to the time interval that separates the two strata, Shih is of the opinion that it is, as yet, not ascertainable. Shih is also of the opinion that, before this place was chosen as the capital city, it must have been already occupied by the pioneers of the Shang settlers for a considerable length of time. The culture of the dynastic period is profusely represented by abundant archaeological remains; in addition to many magnificent bronzes, whose date we shall discuss at length, there are the oracle bones, the chariots, wooden chamber burials, and many pieces of stone, jade, bone, and ivory carvings, and so forth. Most of these can be dated on a fairly accurate basis and assigned to the period from the reign of P'an Keng to the downfall of the Shang dynasty.

But the cultural remains do not seem to terminate at the same time as the fall of the Shang. What followed the Chou conquest of this ancient capital has also for a long time been a matter of speculation. According to available historical accounts, the capital must have been thoroughly sacked by the Chou soldiers after the last king of the Shang dynasty, King Chou, burned his palace and his own body.<sup>7</sup> Ssu-ma Ch'ien put it on record that when Chi Tzŭ, the elder brother of King Chou, who surrendered and received a title from the new dynasty, revisited the old capital some years after the conquest, he found only beautiful crops of wheat or millet growing all over the ruins of the destroyed palaces and ancestral temples.<sup>8</sup>

Archaeological excavations carried on both at Hou-chia-chuang and Hsiao-t'un have brought to light post-Shang burials as well as evidences of post-Shang occupation, although to a greatly reduced extent. It is clear at any rate that Hsiao-t'un was abandoned gradually and converted to

agricultural land only a part at a time.

Thus there have been discovered enough criteria by means of which the archaeological remains of Hsiao-t'un may be divided into four substages: (1) the premetallic substage of the Black Pottery culture; (2) the predynastic substage of the Shang culture; (3) the dynastic Shang culture; and (4) the post-Shang substage. The lines of division that mark the various substages are in most cases stratigraphically definite and chronologically under control. They may be arranged in tabular form as shown in Table 3.1.

Table 3.1 Cultural stages of Hsiao-T'un remains

Building characteristics		
Black Pottery (on the virgin soil)		
Early Bronze Stage B.C below hang-t'u		
Early Bronze B.C		
Post-Shang Bronze II		

The major portion of the bronze collection made at Hou-chia-chuang and Hsiao-t'un belongs to the *hang-t'u* period (Hsiao-t'un 3); some pieces are assignable to Hsiao-t'un 2. A few pieces may be as late as Hsiao-t'un 4. Those which follow Hsiao-t'un 4 were the finds of the Western Chou dynasty and their sequels.

### 3.2 Analyses

Eight samples of Hsiao-t'un bronzes were analyzed in 1947 by the National Research Institute of Chemistry at the request of the Archaeological Section; the results are arranged in Table 3.2.

Table 3.2 Chemical analyses of bronze specimens excavated from Hsiao-t'un

Sample/Specimen						
00001 determined						
00002 determined						
00003 determined						
blade						
00004 determined						
vessel						
00005 determined						
00006 determined						
00007 determined						
00008 determined						

The detailed percentages of the component minerals shown in Table 3.2 may be roughly divided into three groups: specimens 3 and 6, each with more than 90% of the element copper, form one group; specimen 1, with a relatively large proportion of lead, forms a group by itself; then the remaining five specimens, each containing more than 10% of the element tin, form the third group. The last group is comprised entirely of vessels of the ceremonial type, while groups 1 and 2 are specimens of tools and weapons. I have in my possession a series of analyses of the *ko* halbert of different periods; Table 3.3 shows the results of the various analyses. It is revealing to compare the chemical compositions of the *ko* halberts of the various periods. The increasing proportions of the tin and the lead elements in the later periods serve to indicate some significant change in the supply of these two minerals. In the Chou dynasty tremendous new activities might have prevailed in the search for new sources of these minerals, and, as a result, their supply might have been much more abundant to the people of northern Honan. The copper supply seems never to have worried the Bronze Age people of this area since the Shang dynasty. Old gazetteers recorded many copper mines in this region; a recent compilation of these records<sup>9</sup> shows that, within a radius of 300 km of Anyang, no fewer than nineteen copper mines were mentioned. The one at Yuan-chü, less than 300 km from the ancient remains of the Shang capital, was still a great center for money coinage in the Northern Sung dynasty. The mineral specimens from this district, collected in 1948, were on exhibition in the Geological Survey in Nanking.

**Table 3.3**Chemical analyses of five *Ko* specimens from three localities: Anyang, Chün Hsien, and Chi Hsien

Specimen number							
HT. 1 (64)							
HT. 3							
HT. 4							
HT. 5							
SPT. 7							

<sup>a</sup>HT. 1: Shang dynasty; HTs. 3, 4, 5: Western Chou dynasty; SPT. 7: Eastern Chou dynasty

Such data as the above fit into the historical conditions of the Shang dynasty very well; otherwise, it would be difficult to explain the intense activity and the great output of the bronze products of this period. But the low proportions of the tin and lead found in the making of the *ko* halbert



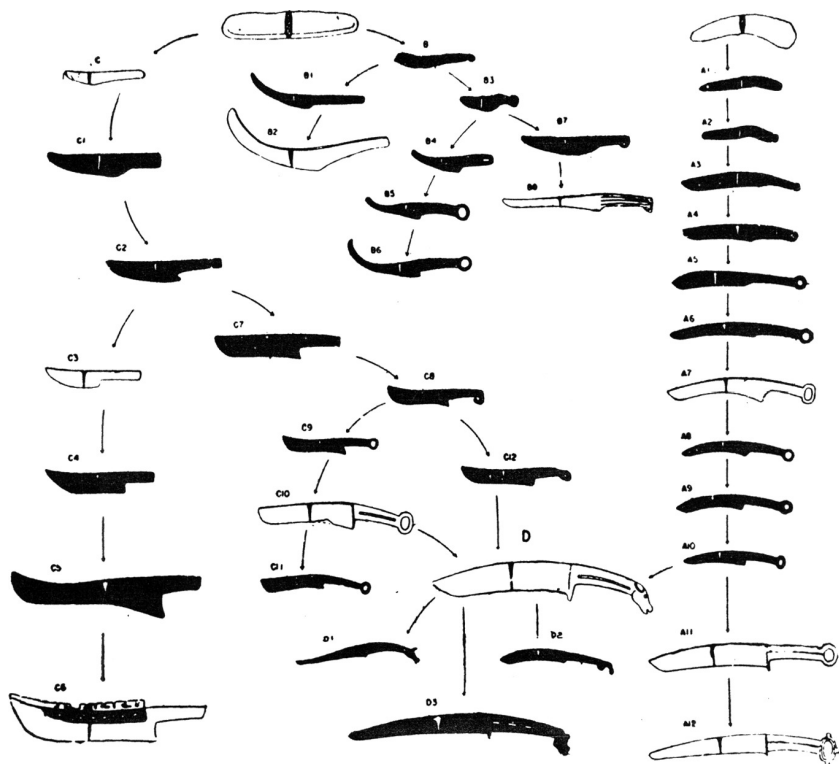
during the Shang dynasty cannot be satisfactorily explained by merely resorting to the interpretation that the supply of these raw materials was limited; as a matter of fact, these two minerals were quite generously provided in the casting of ceremonial vessels (see Table 3.2).

Moreover, the *ko* halbert is not the only type of specimen whose composition shows a low percentage of tin. The arrowhead and the knife handle, as analyzed in the above table, also contained a low proportion of this mineral. Thus it seems that, as early as the Shang time, there was already a distinct correlation between the type of product and the relative proportion of different minerals that entered into the composition of the alloy. On the basis of such distinctions found among the compositions of the alloys of different bronze articles, it is even justifiable to indulge to a certain extent in some speculation as to whether some of the products might have appeared earlier than others.

Evidence is not lacking to indicate that bronze knives dug out from pits underlying the *pisé* foundation might have been manufactured in an earlier period. The one mentioned in my article of 1948 (see note 12) is a case that illustrates the point. The pit in which this knife was found is YH379 and is located in the excavation unit C333. Directly above this pit was the *hang-t'u* stratum gamma 16. The convex-edged knife (Fig. 3.2, 2) is unique among the Hsiao-t'un finds and does not seem to have reappeared in the *hang-t'u* period. While the pit YH379 might be of the Shang period, judging by its general contents, the possibility of the presence of some early survival in such a definitely stratified pit is certainly greater than in pits without so distinctive a position. Another distinctive attribute of this find is the method of its casting by a one-piece mold, with only one side in relief and the other side entirely flat. At a later period, namely the *hang-t'u* stage, symmetrical knives (Fig. 3.2, 3–9) with similar reliefs on both sides were manufactured. To achieve this purpose, valve molds were undoubtedly used. Whether the method of using the internal molds was introduced at the same time it is difficult to say. In my article referred to above, I divided the nineteen specimens of bronze knives from Hsiao-t'un into three types according to the methods by which they were manufactured: (1) single-mold casting, articles with one side flat, two samples; (2) valve-mold casting, articles symmetrical on both sides, thirteen specimens; (3) multimold casting with the occasional employment of internal molds, four specimens (Fig. 3.2, 8–9). It is important to point out that all the nineteen specimens of the bronze knives from Hsiao-t'un were designed for daily use; in no case were they made for burial purposes, as is true of many of the Hou-chia-chuang knives (Fig. 3.3).



**Fig. 3.2**Types of bronze knives excavated from Hsiao-t'un and Hou-chia-chuang: 1, 2, one-sided flat knives; 3–7, symmetrical shapes, showing bivalve casting; 8, 9, hollowed handlers, indicating use of internal mold



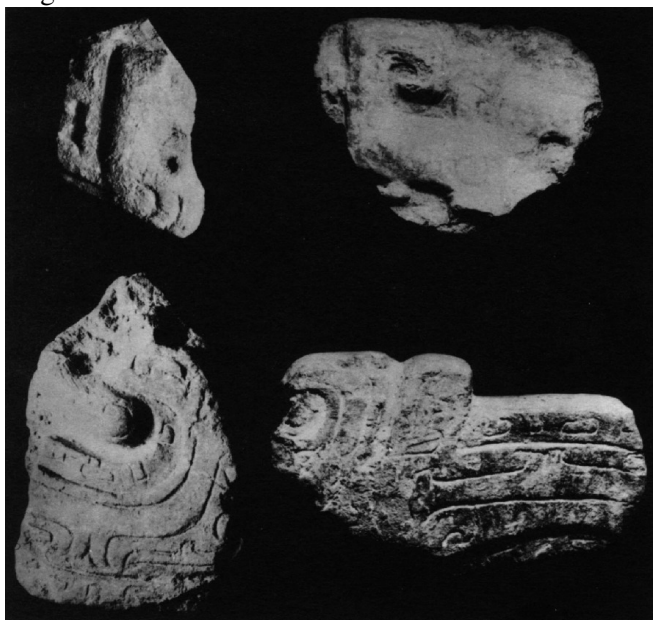
**Fig. 3.3** Structural relations of different types of bronze knives excavated from Hsiao-t'un and Hou-chia-chuang (Reproduced from "Studies of Hsiao-t'un Bronze, Part II," by Li Chi, in *Chinese Journal of Archaeology*, Vol. IV [1949], Fig. 3.9)

## 3.3 Molds

In this connection, it may be fitting to say a few words about the molds excavated from Hsiao-t'un. The collection of these artifacts reached quite a respectable size after the fifteenth season in Anyang. Most of the better-preserved pieces, that is, those with patterns still distinctly shown, are light gray in color, occasionally mixed with a light brownish hue, and they are more or less porous in composition. The back part of the mold is usually irregular, and the edges, if not broken, are tenoned or mortised in many cases. Many of these fragments are complete and have suffered no damage as far as external appearances are concerned, but no success has been achieved in attempts to piece the individual fragments together into a

complete unit originally used in the casting operation.

It is also remarkable that, while hundreds of clay molds were collected, not a single piece of stone mold was found. There are many pieces of stone carvings in the Academia Sinica collection, but none of them could have served as a model for these clay negatives. On the other hand, a number of clay models (Fig. 3.4) were discovered; they were evidently molded after the shape of the article in the process of being cast, and on them, the molds that were to serve as negatives for direct casting were to be printed. On these models, decorative patterns in relief were worked out just as one finds them on the finished products in bronzes; in several cases, on the relieved parts, fine lines were drawn in red or black pigments (Fig. 3.4, upper right), which were evidently to be incised afterward. These half-finished models discovered at Hsiao-t'un throw a great deal of light on the early history of bronze casting.



**Fig. 3.4** Clay models for casting in bronze, all from Hsiao-t'un. Specimen upper right still retains traces of lines drawn in red pigment

Most of the clay molds were well baked; some attained a degree of hardness almost comparable with that of stoneware. It is interesting to note that one of the hard-baked pieces was incised with a character (Fig. 3.5, 2) not yet decipherable but obviously the name of a person whose property this mold might have been. As the character was incised on the back part of

the mold, it could not have been intended for casting. So, if the incised character was for the purpose of identification, the object to be identified would be the mold itself rather than the article to be cast after this mold.



**Fig. 3.5** Clay model used for casting bronzes, from Hsiao-t'un: 1, 4, clay negatives for socketed spear handles; 5, mold for casting arrowheads; 2, 3, 6, molds with signs

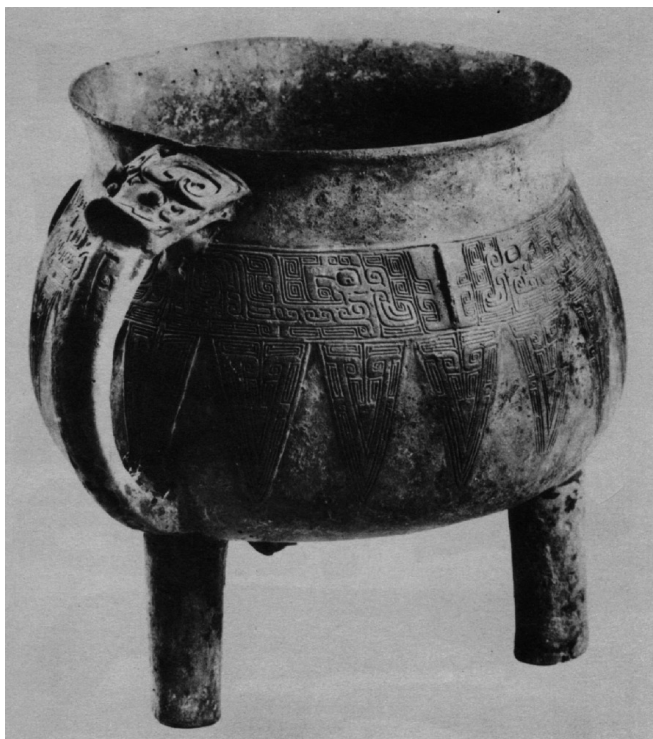
Several fragments for casting arrowheads were found (Fig. 3.5, 5). They belong evidently to the valve type; no molds so simple that they might have been used for the open-hearth process were discovered. Inner molds were found in abundance—a definite indication that the foundry at Hsiao-t'un in the Shang time was a factory for the production of an advanced type of bronze. The factory was well supplied with plenty of malachite and prepared ingots of imported tin. Both these minerals were

discovered during our excavations.<sup>10</sup>

## 3.4 Shapes

In my first study of the Hsiao-t'un bronzes,<sup>11</sup> I listed eighty-two specimens of the containers, including six covers, which were excavated from this site. Covers excepted, the 76 containers were divisible into five classes: round-bottomed, flat-based, ring-footed, tripod, and tetrapod; these five classes were again divided into 19 types. Tools and weapons were studied in my second article.<sup>12</sup> There are 81 specimens within this category besides arrowheads, and they are divided into four classes and fourteen types. Chariot parts, ornamental pieces, and articles of miscellaneous character which do not belong to the first two categories still remain unclassified, since most of them were parts of, or attached to, composite tools, weapons, or chariots. They will be discussed in relation to the things which they decorate or of which they constitute a part. Bronzes in the Hou-chia-chuang collection are amazingly similar to those from Hsiao-t'un, but they are richer in the variety of forms, bigger in size, and better made. Owing to the highly dilapidated conditions in both sites, it is difficult to say whether the differences found so far are more apparent than real. About their contemporaneity, there seems to be hardly any doubt.

Among the Hou-chia-chuang bronzes there were certain pieces (Fig. 3.6) that were never duplicated in the Hsiao-t'un collection; but the majority of the bronze forms are about the same, and many of the specimens from these two sites could be exchanged without being recognized. So, on the whole, it is safe to say that the two collections are the products of the same period, and that whatever marks the Hou-chia-chuang group off is mainly due to the custom that the best bronzes went to the royal tombs.<sup>13</sup>



**Fig. 3.6** *Ting* tripod with a big handle, from Hou-chia-chuang

The shapes of most of the containers found in Hsiao-t'ün could be accounted for. The tetrapods, tripods, and ring-feet as well as the flat-based containers evidently derived their forms from the wooden and the pottery receptacles. Tools and weapons found their prototypes in implements made of bone, stone, or antlers. There are also a number of articles whose origins are obscure. One of the Hsiao-t'ün flat-based specimens is a pan-shaped bronze, originally found in broken condition in YM331. Restored, it looks very much like a frying pan, with a big rim whose diameter measures 52 cm.<sup>14</sup> It is undoubtedly the forerunner of the frying pan used by every Chinese housewife, but its origin is rather indefinite.

If these two collections are taken as typical Shang dynasty bronzes and compared with the Hsin-ts'ün collection of the Western Chou and the Shan-piao-chen collection of the Eastern Chou time, certain marked changes in the shapes of the containers are evident. In the post-Shang periods the tetrapod class almost completely disappeared while the tripod class persisted but had undergone a great number of structural



modifications.<sup>15</sup> The *ting* tripods of the Eastern Chou periods acquired covers, and the *hsien* steamer was cast in two pieces in the Eastern Chou. A number of new shapes made their appearance in the later periods, owing partly to changes in customs as well as to technical improvements. The best group of bronzes that may be taken to illustrate such changes are the *ko* halberts, which were found all through the Bronze Age of China and were represented by a large number of examples in all the above collections.

The *ko* halbert is a weapon used for more than 1,000 years by the Chinese fighting force in the classical period. It is a typical Chinese invention and developed exclusively in China. In 1950, the *Bulletin of the Institute of History and Philology* published my article on “Typological Studies of the Bronze Kou-ping (Chinese Halberts) Excavated from Northern Honan, with a Classified and Illustrated List.” In this article, the development of *ko*, leading gradually from the stone prototype and bronze imitation, through the various intermediate stages to the ideal shape as laid down in the famous version of “K’ao Kung Chi,” was traced.<sup>16</sup> The specimens examined are 208 in number and belong to the following five collections:

<b>Collections</b>	
15Hsiao-t’ un	
21Hou-chia-chuang	
67Hsin-ts’ un	
49Shan-piao-chen <sup>a</sup>	
56Liu-li-ko	
208Total	

<sup>a</sup>The excavations at Shan-piao-chen and Liu-li-ko are not yet reported.

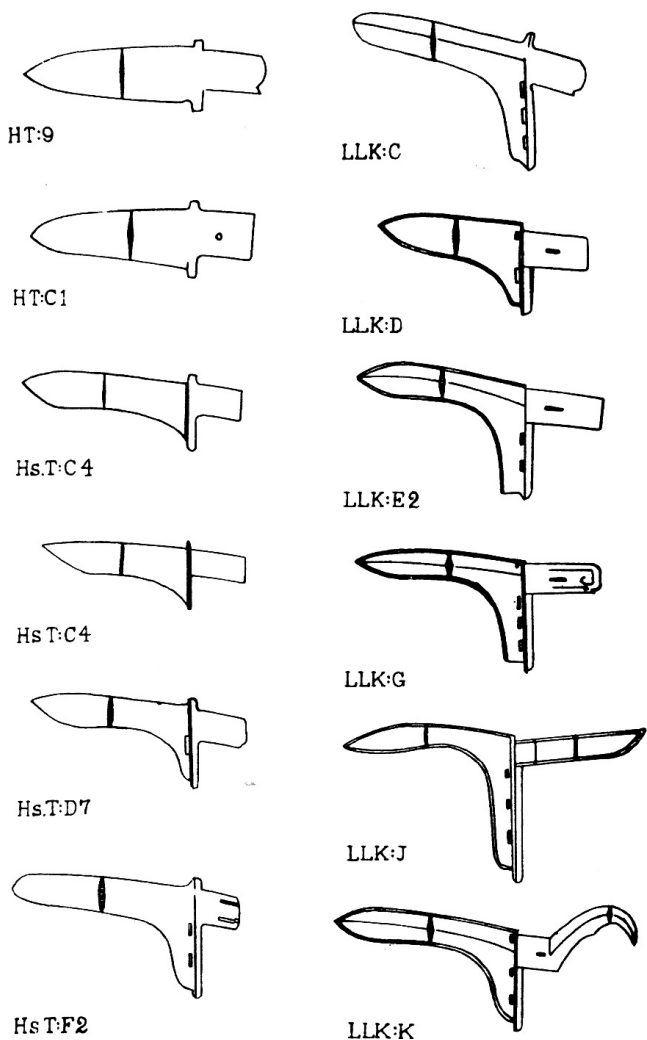
The first two groups belong to the Shang dynasty; the Hsin-ts’ un collection consists mainly of remains of the Western Chou time; while the fourth and the fifth groups represent the period of the Warring States. The typological characteristics of these three periods may be summarized in the following terms.

Stone *ko* were found in large numbers in both Hou-chia-chuang and Hsiao-t’ un. It is interesting to note that in one of the Hou-chia-chuang royal tombs (HPKM: 1001), together with the underground guards buried in the sacrificial pits underneath the wooden chamber, there was found in each case a *ko* halbert. The one found in the central pit, evidently, the resting place of the chief guard and much larger in size than the other pits



(Fig. 3.9), is made entirely of stone; those found in the corner pits are all made of bronze. There is no doubt here that the weapon made of stone was given a more honored position chiefly for its greater antiquity.

These three typological stages are all well illustrated by the five collections mentioned above (Fig. 3.13). In the period of the Warring States, iron was already in use for making agricultural implements. At exactly what time bronze was fully replaced by iron in the manufacture of weapons is, archaeologically speaking, still uncertain. What is definite is that the evolution of the *ko* halbert must have taken nearly 1,000 years before it reached its perfection, and its active service must have lasted more than a millennium before it was finally abandoned. The various stages of the typological development of this weapon have a chronological value which can hardly be equaled by any other group of artifacts of the Bronze Age. But to trace back to the earliest stage and the origin of this era, there is still a great deal of work that must be done. The data selected for the present survey were all collected by our own field workers from the northern part of Honan. There are many key areas equally important for archaeological purposes but totally unknown. Until these areas have been examined with scientific care, it would be rash indeed to postulate a definite theory about the origin of the Chinese Bronze Age (Table 3.4).



**Fig. 3.13**Typological evolution of the *ko* halbert

**Table 3.4**Bronze age of China

Chronologic features		
Early Shang (c. 1700-1500 BC) (Anyang)	one side flat	
Early Zhou (c. 1100-700 BC) (Anyang)	one side flat	
Mid Zhou (c. 700-400 BC) (Anyang)	one side flat	
Warring States (c. 400-221 BC) (Anyang)	one side flat	
Qin (c. 221-206 BC) (Anyang)	one side flat	
Han (c. 206 BC-220 AD) (Anyang)	one side flat	
Three Kingdoms (c. 220-280 AD) (Anyang)	one side flat	
Wei (c. 220-265 AD) (Anyang)	one side flat	
Jin (c. 265-420 AD) (Anyang)	one side flat	
Sui (c. 581-618 AD) (Anyang)	one side flat	
Tang (c. 618-907 AD) (Anyang)	one side flat	
Song (c. 960-1279 AD) (Anyang)	one side flat	
Ming (c. 1368-1644 AD) (Anyang)	one side flat	
Qing (c. 1644-1911 AD) (Anyang)	one side flat	
Republic of China (1911-1949) (Anyang)	one side flat	
People's Republic of China (1949-present) (Anyang)	one side flat	

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# Footnotes

1

With the exception of a small lot of inscribed oracle bones discovered in the southern part of Hou-chia-chuang (See Tung Tso-pin, "On the Seven Complete Inscribed Tortoise Shells from the Excavation at Hou-chia-chuang, Anyang," *T'ien-yeh-k'ao-ku-pao-kao* [in Chinese], No. 1 [1936], pp. 91–165), and one piece found at the site of Hou-kang, all the inscribed oracle bones in the Academia Sinica collection were excavated from the dwelling site of Hsiao-t'un.

2

Of the excavated bronzes from Hsiao-t'un and Hou-chia-chuang, only one piece

bears an inscription of four characters; it is a big basin-shaped container, placed at one of the passages in one of the big tombs. The four characters read: *ch' in* (sleeping), *hsiao* (small), *shih* (chamber), and *yü* (basin). See Pl. IX, below.

3

Storage Pit 16 was discovered and excavated in the fourth season at Hsiao-t'un in the spring of 1931; this pit was first found on April 10 of that year, and the excavation lasted nine days; the deposit reached a depth of 9.3 m, somewhat beyond the present water level in the rainy season. The pit is circular in shape with a diameter of 1.7 m at the upper rim. See for details *Preliminary Reports of Excavations at Anyang* (in Chinese), Part IV (1933), pp. 564–567.

4

Chi [1].

5

Recent discussions on the chronology of the Shang (Yin) dynasty have advanced much of our knowledge about its complicated nature, but the result, if there is any, is still far from being conclusive. I have in the tentative table of this paper chosen a more conservative estimate, as it seems to me that none of the half-dozen new dates proposed by the various schools is backed up by arguments either more substantial or less defective than earlier calculations. One of the most serious attempts to build up a new chronology for this period is, no doubt, the one made by Professor Homer H. Dubs. In defense of his own interpretations of astronomical records preserved in ancient Chinese documents, he has recently criticized, rather fairly I should say, Tung Tso-pin's (Dung Dzo-pin, according to Dubs) chronology in these words: "It is dangerous to employ a Han Calendar for a period a thousand years earlier" ("The Date of the Shang Period," *T'oung Pao*, XL, Nos. 4–5 [1951], p. 325). It is, therefore, most amazing to read in the same paper five pages further on, where the author discusses the problem of the beginning and end of "day," the following remarks: "Later Chinese practice, however, provides *strong evidence* [italics mine] that in the Shang period China used the Roman Day. Eclipse Record IV confirms that probability" (p. 330). The point is, as admitted by Professor Dubs himself, that Eclipse Record IV is also a defective document that contains at least one character, a keyword for the interpretation of the whole record, still disputable as to its exact connotation. It is obvious that here Professor Dubs's superior knowledge of astronomy does not help him to settle this problem. When he goes back to the idea of referring to "later practice" as "strong evidence" to prove what might have been the case a thousand years or so earlier, or even a few hundred years earlier for that matter, he seems to be using exactly the same method which he had discredited in the earlier part of his paper. So, pending the arrival of a genuine scientific reconstruction of the Shang chronology, a more conservative date is certainly preferable for the simple reason that it would, at least, avoid much useless confusion.

6

Translated from the unpublished manuscripts of Shih Chang-ju.

7

What really took place during the battle of the conquest of the Shang by the Chou is still preserved in some documents, such as certain chapters of *I Chou Shu* (in Chinese) (Ssu-pu-ts'ung-k'an edition [Shanghai, 1919–1929]); chap. xxxvi on “Conquering Yin,” and chap. xl on “Captives” throw a great deal of light on this famous battle.

8

Chavannes [2].

9

Amano [3].

10

Yü-hsia [4].

11

Chi [5].

12

Chi [6].

13

The term “royal tombs,” as far as I am aware, was first employed by Professor Paul Pelliot in his lecture at Harvard University on the occasion of its tercentenary celebration (see “The Royal Tombs of Anyang,” in *Independence, Convergence and Borrowing in Institution, Thought and Art* [Cambridge, Mass.: Harvard University Press, 1937], pp. 265–272); the field archaeologist who worked in Hou-chia-chuang called them simply big tombs and small tombs. Liang Ssu-yung, Director of the Hou-chia-chuang excavations, labeled the map of this cemetery area as “Thousand Tombs Cemetery Area of Hou-chia-chuang.” But there is much justification for Professor Pelliot’s adoption of this descriptive term. Tomb HPKM:1001, for instance, as surveyed, shows a total content of no less than 4,200 cubic meters; so, to dig the pit alone, it must have required no less than 4,200 day-labor units, if one labor unit at that time could have removed one cubic meter of dirt in a day; as the best of farmhands nowadays, with a much superior tool and better incentive, might occasionally be able to do. It is scarcely imaginable that in the neighborhood of the capital of the ruling dynasty any other group of people, aside from the royal clan, were in the position to command such wealth and power.

14

See Li Chi, “Studies of Hsiao-t’un Bronzes, Part I,” p. 68.

15

Pao-chün [7].

16

“K’ao Kung Chi” (the artificers’ record) is a section of the *Chou Li*, one of the Thirteen Classics. There is a French translation, *Le Teheou-li*, by Édouard Biot (Paris, 1851).

## 4. Archaeology

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Antiquarian studies in China began to develop at the beginning of the Sung Dynasty (960 to 1126 A.D.). They enjoyed a glorious period for more than 100 years, during which a solid foundation was laid for later development. The classical revival in the eighteenth and nineteenth centuries included a very strong current of antiquarian interest, which has been rightly considered as the direct descendant of Sung scholarship. Western science began to affect China seriously, only at the beginning of the twentieth century. So the concept of modern archaeology in China may be said to be developed from two entirely different, but mutually complementary traditions: on the one hand, it is related to that special branch of classical learning known as the Study of Metals and Stones; and on the other, to the field explorations and excavations, which were first developed in the science of geology and biology, and from which archaeology in the West has been gradually evolved. Such being the case, archaeology, therefore, unlike most other natural sciences which have come to China unprecedented, serves best to link together modern science and traditional Chinese learning. In order to make a proper estimate of what is being done at present and what can be achieved in the future, it is necessary that something should be known of China's antiquarian past.

### 4.1 Historical Background

In a paper published by the late Professor Wang Kwo-wei on "Archaeology in the Sung Dynasty,"<sup>1</sup> he pointed out the distinct achievements by Sung scholars in archaeology, in several different fields. The more important of these are collecting, recording, and identifying. In all these their merits rank very high; some remain unsurpassed down to the present time. It is interesting to note that this is only part of the result of a broad intellectual movement of the Sung Dynasty, which yielded important achievements in many different spheres. The whole movement was characterized by a great deal of constructive effort; many of the monumental works on history, treasures of Chinese spiritual possessions, date from this period. While the interest in antiquities was no doubt a phase of the historical mentality of the time, it attained an independent development in the very beginning. Works on this subject left to us from this period are strangely modern in many of their ideas. It is true that there was neither historical nor comparative method, nor any attempt at a comprehensive system, but the effort aimed at accurate presentation and reproduction, and many of their identifications are quite praiseworthy. *K'ao Ku T'ou* and *Po Ku T'ou* published between the eleventh and twelfth centuries A.D. are more than a collector's handbook. In them, a system was created for recording and reproducing antiquities, which, except for minor details due to improvements in modern printing, has been taken as a model of all treatises on antiques till the present day. It may not be possible to test the accuracy of their measurements or reproductions, but their aims at being accurate are more than obvious; and the ingenuity and correctness of most of their identifications have been confirmed by modern criticism. As printing was at that time already invented, so the vogue of collecting spread fast. What is more remarkable is that the fashion of collecting was created and maintained chiefly by private individuals, in spite of the fact that the largest and the most well-known collection is an Imperial one. Thus Professor Wang says in his paper on "Archaeology in the Sung Dynasty":

Remarkable as was the Imperial collection, the fashion of collecting ancient objects, however, was created by private individuals. History records that Liu Ch'ang, when governor of Yung Hsing, (present Hsianfu in Shansi), secured eleven objects of pre-Ch'in periods; and that Li Kung-lin, having a wide acquaintance with objects of antiquity and being skilful in judging them, showed such enthusiasm, that whenever he heard of an object of value, he would not hesitate in the least to pay a price of a thousand taels. Books such as Lü Ta-lin's *K'ao Ku T'ou*, Hsu K'ao Ku T'ou by an unknown author, Wang Fu-chai's *Chung Ting K'uan Shih*, and the appendices of the *Tsih Ku Lu* and *Chin Shih Lu*, very frequently record

the names of the collectors underneath the descriptions of the objects. The collectors thus recorded numbered no less than several scores....<sup>2</sup> (p. 223).

The scope of those collections included mainly bronzes and jades, but coins and some kinds of stonework were sometimes also included. Although they concentrated most of their interest on inscriptions, it is the merit of the Sung archaeologists that they were able to see, in the antiques which they were collecting, important materials for studying ancient institutions. It was the common belief of the Sung antiquarians that it needed men versed in rituals to know the usage of antiques. Thus they made two great contributions towards the gradual building up of an antiquarian science in China: namely epigraphical study, and identification of forms, besides their persistent effort in collecting, reproducing, and circulating. In about 100 years or so, they created a new science and perfected a new technique.

This new science, founded by a group of Northern Sung scholars, was ably continued even after the disastrous event of the Tsing K'ang era when the Golden Tartars raided the capital city at K'aifeng and made it a ruin. In fact, it continued to the very end of the Sung Dynasty. Many notable treatises on antiques were produced in the later period.

Owing to this continued activity, the foundation of the new science was laid firmly; so even after a total lapse of almost 500 years, it still retained enough vitality to give new strength to the classical revival in the Manchu Dynasty. "During the 150 years, from the middle of Chien Lung's reign to the present, marvellous progress has been made in the study of archaeology,..." says Liang Ch'i-ch'ao in an address in honor of the visit of the Crown Prince of Sweden to China. "The number of books on archaeology is truly astonishing. I am familiar with at least 400 books which I consider as valuable contributions to this subject,"<sup>3</sup> he continued. The works of this period, however, deviate very little from their Sung prototype; but they have attained greater accuracy, and are worked in greater detail. They are on the whole better epigraphists. Owing to the intensive interest in textual criticism of this period, antiquarian studies were much encouraged, as they offered so much new material, and were evidently helpful in the study and interpretation of ancient classics. Yüan Yüan, who edited the famous *Huang Ch'ing Chin Chieh*, is also the author of *Chi Ku Chai Chung Ting I Ch'i K'uan Shih*, one of the first treatises on bronze inscriptions written in this period. From Yüan Yüan's time on, a long list of scholarly antiquarians has followed, until it gradually merges into an intermediate stage when Western influence began to penetrate. The result of the contact of this influence with the old tradition is the birth of



new archaeology in modern China.

The great contribution of this period is the advancement of epigraphical studies, of which the Sung antiquarians made only a start. They also showed a more diversified interest, and produced special treatises on bricks, tiles, seals, and other antiques of a given locality. It is only fair to say that at the end of the nineteenth century, traditional antiquarian science had already developed to such a stage that it was only a step from the standard of Modern Archaeology. Wu Ta-chêng's treatise on jade, and his study of early inscriptions, for instance, can stand comparison with any modern scientific treatise of a similar nature. It is an even bet whether or not traditional archaeology in China would have advanced to the modern stage even without Western influence! It is at any rate obvious that without such background archaeology would not have attracted so much interest in China at the present time.

## 4.2 An Intermediate Stage

Before we discuss recent works, it is worthwhile to note how Western explorations of Chinese antiques have reacted upon the classical school of China. In this connection, two great events need special mentioning: one is the discoveries of the Tun Huang Manuscripts, and the other is the activity of the Geological Survey. I have no space here to relate in any detail the story leading to the discovery of the Tun Huang treasury. Those who are interested may be referred to the publications of Aurel Stein<sup>4</sup> and Paul Pelliot.<sup>5</sup> This discovery has influenced the classical school of China in recent years most profoundly, and it proves convincingly to the conservative Chinese learned world how much more fruitful is field exploration than mere book pursuit, even in classical study. This stage of reaction was brought forth by a very fortunate circumstance; that is, the Tun Huang manuscripts are both rich and variegated, and relate to a period immediately preceding the age of the earliest printed books. Some of the best minds of the last generation were occupied with the study of this new discovery; the results are almost revolutionary. A perusal of the works of Lo Chên-Yü and Wang Kuo-wei, two of the most eminent scholars, whose activity may be properly assigned to this stage, show, that what makes their achievements enduring is their opportunity to study these new materials.

Meanwhile, some energetic minds began working along a different line, which was bound to exercise a healthful influence in the same direction and quicken the birth of a modern archaeology in China. I mean to refer to the

activity of the Geological Survey of China. The survey was established for a definite purpose, which is being successfully fulfilled; besides, they have found enough energy to pay a great deal of attention to the Psychozoic period. This has resulted in a series of archaeological works culminating in the recent discovery of *Sinanthropus Pekinensis*. But the works that have a more immediate bearing on archaeology are those undertaken by J. G. Andersson, Swedish advisor to the Survey, in Manchuria, Honan, and Kansu, where he found an early Chinese culture totally unknown before, and whose relation to the traditional Chinese culture has aroused a great deal of speculation.<sup>6</sup> An intense interest in early Chinese history has been stimulated by these discoveries. The younger generations are finally and totally convinced of the great possibilities of archaeological excavations; plans for such activity have begun to mature.

## 4.3 Recent Works

The confluence of traditional antiquarian studies and the modern scientific method has necessitated a readjustment of viewpoints, and brought forth not only an improvement of technique, but also a complete review of all the historical problems. It must be said that such a process will take a long time to complete; what is being done at present is only the beginning of a new era.

From a purely archaeological viewpoint, as different from that of early antiquarians, there are certain problems never thought worth consideration by traditional historians, which have gained their importance through the development of natural sciences. When China is now viewed not as an isolated unit by itself, but merely a fragment of the total humanity, one finds that a great deal of materials, totally disregarded by early antiquarians, become extremely informative and historically significant. From this point of view, China is an extremely rich field that has just begun to be explored.

Many of the institutions of higher learning like the Department of Chinese Studies of the Peking Government University, the Historical Museum, and the Tsing Hua Research Institute began to take up these new problems, and became interested in archaeological excavations in the last decade. Although it has not been possible to carry out all the plans, sporadic work has been done from time to time, and some of it has been done meritoriously. However, it remains for the Institute of History and Philology, Academia Sinica, to be the first sponsor of serious

archaeological excavations. The recent work undertaken by the Institute in Anyang<sup>7</sup> deserves special mention for a variety of reasons; it is thoroughly modern in its planning; it is one of the key sites of North China; it has yielded abundant results; and above all, it has been of interest to both the early antiquarians and the modern archaeologists. So it may be taken as a typical example of recent work done in this field.

This site first became known to the antiquarians in 1899, when some curio dealers brought some inscribed bones from this site to Peking, attracting the attention of Wang I-yung, a great scholar and statesman who immediately recognized their importance and began to collect them. He died in the Boxer's time, the year following. His collection passed into the hands of Liu Tieh-yün, who was the first to make rubbings on these inscribed bones, and publish them in book form. Then it was followed by some periodical bone rushes among the curio dealers, a great deal of serious work, and some very interesting episodes when these new materials were struggling for recognition. During this period serious studies were made chiefly by Lo Chên-Yü, and Wang Kuo-wei, who deciphered about half of these newly discovered characters, thus laying the foundation of this new branch of paleography. In the early period, the work was carried on with a great deal of opposition from other quarters. Chang Ping-lin for instance, one of the greatest living Chinese scholars at the time, who is in certain sense radical in his political thought, but conservative in his literary ideas, considered these materials as forgeries. Nevertheless, studies were carried on and new inscribed bones were added to the market every day. The actual site was eventually ascertained. Lo Chên-Yü had the originality of visiting it himself but at that time he considered the site, so far as the inscribed bones were concerned, as already exhausted. All the while it never occurred to anybody that excavations might be fruitful.

The Institute of History and Philology was organized in 1928. In the very beginning, archaeological excavation has been taken as one of its regular enterprises. Anyang was chosen as the first site for work. In less than 2 years time three seasons' diggings have been done. Because of their importance, the results achieved have received attention all the world over. It may be truly said that since this work started, modern archaeology has made a beginning in China.

Previous to the excavations of the Institute, our knowledge of the Anyang site was confined to the inscribed bones. It was also known that it was the capital city of the Shang Dynasty, and that many other things were found together with these bones. But the knowledge of the latter was so imperfect that scientifically speaking it was almost worthless. Meanwhile,

the site was badly destroyed by the reckless plundering of curio dealers for almost 30 years. When the Institute first began to work, many thought it already too late. But through careful planning, methodical procedure, and detailed observations, the field work has been carried out with extraordinary success.

Among the many discoveries that have been made, some are of such fundamental importance that they deserve more detailed treatment. Through stratigraphical studies, it has been possible to determine definitely the general character of the various associated finds. The nature of the deposit, the conditions that led to the final abandonment of the city, and the changes that have taken place after the abandonment have all become observed knowledge. It can now be categorically laid down that Hsiao-t'un Ts'un, where the diggings were carried out for three seasons, was once part of the capital city of the Shang Dynasty, sometime between 1400 and 1200 B.C., but it was deserted during the final collapse of the Dynasty. The place has never again been occupied as a city site.

The most important group of artifacts that have been taken out from the buried city are inscribed plastrons and scapulars that were used for the purpose of divination. On them are inscribed the queries made and answers given in consultation, in archaic characters, which are more primitive than the oldest inscriptions on bronzes previously known. They represent undoubtedly one of the early stages in the development of Chinese writing, from which the later ones have gradually been evolved. It has been possible after many years of patient work to trace, gradually, such development. More than eight hundred of these characters, about half of the total that have been discovered, can be definitely deciphered. The contents of these inscriptions are therefore quite readable and prove to be very rich.

The royal house of the Shang Dynasty was faithful observants of oracles. Judging by the great abundance of these bones and the contents of the inscriptions, it is quite definite that oracles regulated even the minute details of the conduct of the king. Whether it was an act of performing a sacrifice, or taking a trip, going out hunting or fishing, inquiring about the weather, or sending out an expedition, the cracks of the bones must be consulted; answers were found in the signs of these cracks, which the king evidently had to obey. It is for this reason that the inscribed bones have been found in such great abundance and with content so rich that from them a great deal of the lost history of that period, political, social, economic, and religious, can be reconstructed.

Important as these inscribed bones are, the associated finds are no less so. Inasmuch as the time can be approximately defined, the material

culture, as revealed in the artifacts contemporaneous with this period, can both substantiate the verbal statements on the bones and, to an even greater extent, supplement them. A great deal of our knowledge concerning the culture of this period depends almost entirely on such finds. For instance, it would be difficult to find out from the inscriptions whether the Shang people of this period were still in the stone age or had already begun to use metals; if they used metals, to what extent. The stone or metal objects themselves furnish the exact data. By means of careful stratigraphical study, we know for certain now that the Shang people of this period had already mastered to a very advanced degree the secret of casting bronze. They made weapons, ceremonial vessels, and many ornaments of this metal, and developed an extensive bronze industry right on the spot, as proved by the remains of moulds, bronze ore, and slags attached by copper rust. But at the same time, the copper and tin supply must have been somewhat limited, so a great number of utensils were still made both of bronze and stones, such as axes and knives, etc. That it is possible to show and prove that in this period people were using both stone and metals, is, I believe, a great contribution to our knowledge of early Chinese history, and at the same time furnishes new materials for students who are interested in the migrations of early cultures.

Ceramics, which are basic archaeological materials, have been found in great quantity. They consist of many fundamentally different types, easily proven to be an aggregation of different local productions, as is to be expected of a metropolitan culture. One of the amazing discoveries concerning this industry is its use of glaze, the beginning of which has been hitherto considered to be sometime in the Han Dynasty. In spite of its aggregative character, the ceramics on the whole share certain individual traits typical of this period. For instance, they are all monochrome and decorated by incised lines, entirely different from the aëneolithic Yang-shao ceramics, which are polychrome and decorated by paintings. Survivals of Yang-shao wares were discovered on this site. This discovery is of some importance because it helps to determine the lower limit of the age of Yang-shao which has never been definitely fixed.

The finds also contain many decorative works of shell, stone, and bone, illustrating profusely the art of the period. The decorative elements, on the whole, are quite consonant with the traditional ideas relating to the art of the period, only proving to be more luxurious. When they are worked out, it will be possible to determine the relationship with the various surrounding centers that were contemporaneous with this culture.

These are only a few examples of the finds from this site; many are still

in the hands of specialists whose opinions are being awaited as to their real significance. Even these few are sufficient to show the general nature of the contents and the importance that may be attached to them. From an archaeological viewpoint, it is most fortunate that this site should have been chosen for the first serious work. When the materials are thoroughly studied they will help to clarify many difficult problems and serve as a standard of definite value by which others may be compared and judged. In other words, we have got a key site in North China, gradually worked out and found a guide to direct our search in the archaeological maze of the Yellow River Valley.

## 4.4 Future Prospect

The work of the Institute has already created a widespread interest in the archaeological excavation in China. To follow up this work many plans have been made by various universities and museums to excavate early remains. It can be safely predicted therefore that as soon as the country is politically settled there will be a flourishing period of archaeological diggings. But from practical experience can we say anything about the archaeological prospects of this country?

I have been told that when Sir Flinders Petrie first went to Egypt in 1880 he was not at all encouraged by any of his senior workers; the fact was that Egypt seemed to many experts at that time to have been archaeologically exhausted. Fifty years have now passed since his first triangulation of the Pyramids in Gizeh, and many undreamed of discoveries have been made, one after another in this period; yet, to this day, Egyptology seems to be a field for young archaeologists just as alluring as it was 50 years ago. China possesses an ancient tradition and is just beginning to be explored. Results of the recent works prove most substantially that the spade can work just as many wonders here as it did in other old countries. The forgotten history of China will certainly be written on materials to be recovered from this source, as has been the case with Mesopotamia, Egypt, Greece, and Rome.

## References

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Reprinted in the *Smithsonian Report for 1927*, pp. 453–466.
3. Stein, A., *Ruins of Desert Cathay*, Chapter XIV, pp. 491–511; *Serindia*, Vol. II. Chapter XXI–XXII, pp. 791–830; *Innermost Asia*, Chapter X, pp. 343–370.
4. Pelliot, p., *Les Grottes de Touen-houang*, Paris, 1922–1924.
5. Andersson, J. G. (1923). published by the Geological Survey. The more important of these are: *An Early Chinese Culture*, 1923; *The Cave Deposits of Sha-Kou-T'un in Fengtien*, 1923; *Archaeological Research in Kansu*.

## Footnotes

- 1  
Reference [1].
- 2  
*Ibid.*, p. 223.
- 3  
Reference [2].
- 4  
Stein [3].
- 5  
Pelliot [4].
- 6  
See the various works of Andersson [5].
- 7  
The Freer Gallery of Art, Smithsonian Institution, has been for many years, actively interested in archaeological works in China. The expense for the Anyang excavation for the year 1929 was equally shared by the Institute and the Freer Gallery of Art, with which the author was connected for five years, and to which he is glad to be able to acknowledge his indebtedness.

# 5. Archeological Survey of the Fêng River Valley, Southern Shansi, China

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Editor's note: It is greatly to be regretted that, owing to lack of space available in the present publication, Dr. Li's excellent report, his illustrations and his interesting conclusions cannot be printed complete at this time. The following excerpts will, however, convey some idea, at least, of what he has accomplished by his preliminary search for archeological sites in southern Shansi.

In the latter part of December 1925, Mr. Bishop suggested that I undertake some work in the field. The idea immediately occurred to me that before the spade be brought out, a preliminary survey should be made, so it was agreed that I should go to the southern part of Shansi and investigate the archaeological possibilities along the Fêng River valley. The president of Tsing Hua College, Mr. Y. S. Tsao, kindly consented to cooperate. In his official capacity, he wrote to Governor Yen His-san and successfully arranged for a permit for me to travel in southern Shansi. By a lucky coincidence also, the Geological Survey of China was on the point of sending Mr. P. L. Yüan to the same region for some field-work in geology. Mr. Yüan is a geologist of much experience, having traveled with Andersson in Kansu for 2 years and acquired a great deal of interest in



prehistoric archaeology. So we arranged to travel together. Our start was somewhat delayed, and it was not until February 5, 1926, that we left Peking, just a week before the Chinese New Year.

We arrived at T'ai-yüan on the 7th, and spent the whole day of February 8th in making calls and purchasing equipment. When I left Peking, I brought a large number of letters of introduction to the Governor and the various officers of influence in Shansi. Among these was one written by Mr. Liang Ch'i-ch'ao, now senior professor of the Tsing Hua Research Institute. Similar to many other letters, this one explained the purpose of my visit and the necessity of archaeological work at present. The Governor, however, was too much occupied with matters of greater importance to see us; but we succeeded in having an interview with his secretary, who, on behalf of the Governor, promised us all the help we asked. These promises were well fulfilled later on.

We left T'ai-yüan on the 9th (Fig. 5.1) and, traversing what is geologically a *loess* area, arrived at Chieh-hsiu three days later. I was much impressed by the extensive use of arches that is noticeable from T'ai-yüan southward. It seems to be quite a peculiarity of Shansi architecture. The first series I saw was along the Chêng-t'ai road. All the way, in houses that were built on a grand scale, as well as in the small inns, we found such arches employed. Buildings of this type are known as *yao-fang*. Native scholars told me that they are warm in winter and cool in summer, the style being derived from the early cave-dwellings. At present, we still find all the transitional stages from the *loess* cave type to the most complicated *yao-fang* represented in this region.



Fig. 5.1 Typological evolution of the *ko* halfbert

We took advantage of the Chinese New Year to see the city of Chieh-hsiu (Fig. 5.2) and also made some measurements of the natives, who seem to be quite a heterogeneous group. I saw bearded men who can be compared with the average Armenian; I saw also men with 100% yellow mustaches. One of the commonest physical types found in this district is the round-headed individual with a long face, a disharmonious type according to physical anthropology. Such an occurrence did not, however, surprise me at all, as both dolichocephalic and brachycephalic people are found in this region. Very likely it is the mixing of these two fundamental types that have given rise to this disharmony.



*Fig. 5.2* Our cart in front of a roadside temple

On the 15th, we started our first trip to the mountain (Mien-shan) in the southwestern part of the district where some of the ancient temples are found. Of two of these, especially, I made some detailed study. Both temples are Buddhist, one located at the foot of the mountain, the other near the top of one of the peaks. The one at the foot was first built in the T'ang Dynasty, but has been destroyed and rebuilt many times since, only the bell and drum-tower still retaining a pre-Yüan style. The temple on the

peak, also, was first built in the T'ang period, but burned during the Ming. The stratification of the three different layers of culture is here plainly visible. One of the halls is located very near to a cave. The images that are worshipped at present are evidently of recent origin. Behind them is another row of images cast in iron; and finally in the cave, I found two broken statues of stone, one with a head and one without, carved in simple, bold style, showing T'ang workmanship; but they are cast away in the rear of the cave and covered by dust. Perhaps, however, the most interesting thing we saw on this trip is a stone ox washed down by a mountain torrent some time ago, from where no one knows.

The river Fêng has its source at Kuan-ch'in-shan and flows in a straight southerly direction till it reaches Chiang Chou. From I-t'ang southward, it cuts through the Ho-shan range for about 40 miles, after which it flows through the plain again. For a whole day, the 23rd, after leaving Chieh-hsiu, we wormed our way through the Ho-shan along the river bed. About noon we reached Hsia-mên Ts'un which is one of the most beautiful villages I have seen in this province: the buildings of brick and limestone, the windows and doors arched.

From there southward, the mountains on both sides rise steeply, and in them are many limestone caves, some of which I explored, but found only traces of modern habitation. We stopped at Ho-chou, between which place and Lin-fêng Hsien there are many historic places; but as I did not intend to make any intensive study north of the latter, we passed this region rather hurriedly and reached Lin-fêng Hsien on the 25th.

Lin-fêng Hsien (or P'ing-yang Fu), a city that has aroused the imagination in the past—the ancient capital of Emperor Yao! What Chinese scholars are not acquainted with the list of virtues of this august monarch? Did he, however, also create a model city? Since he was, perhaps, the most self-denying emperor that the world has ever known, it would not be in harmony with his ethical principles if he should have used the national wealth to build luxurious palaces like those found in Troy and Knossos; but whatever he might have done in this respect, it is a fact that there is not even a tradition as to the exact location of his capital. The modern city of Lin-fêng Hsien is, like every other city in inland China, surrounded by machicolated walls. About a mile west of the city flows the Fêng River, and west of the Fêng is the famous Ku-i-shan where, according to the mythical tales of Chuang tzŭ, resided many fairies.

We rested in Lin-fêng Hsien for a day, and on the morning of the 27th started to explore Ku-i-shan in the western part of the district, the place being popularly known as Hsien-tung (Fairies' Caves). A mile out of the

western gate of the city, we crossed the Fêng River. Between the river and the foot of the mountain, there is a series of *loess* terraces ascending higher and higher towards the mountain and dotted here and there by villages, some of which are merely a collection of cave dwellings. It took us more than half a day to reach the Northern Fairy Cave, where we were received by a monk—an old man, widely traveled, and evidently knowing something about his profession.

The temples in this mountain are for the Buddhists. They were originally built in the early part of the T'ang Dynasty; but in later periods they were repeatedly ruined and rebuilt. For some time in the Mongol Dynasty, the Taoists took hold of them and converted them into Taoist temples. They were, however, soon restored to the Buddhists again.

The purpose of my own visit to this place was to explore the limestone caves; that of Mr. Yüan, to investigate the coal region still further west; so on the morning of the next day, each of us pursued his own task. The whole region here is limestone formation, divisible into many different strata. A deep ravine cuts the ground into two perpendicular walls, north and south, in which are several rows of caves, most of them inaccessible, while some are well fitted for early human habitation. Of these, I visited five, in the hope of unearthing some paleolithic remains, but the search proved fruitless. We left the mountain on the next day by a different route and made a further search at the foot of the mountain—only to be disappointed again. I had a long discussion with Mr. Yüan in the evening as to the exact route we should follow, and finally came to the conclusion that, so far as my personal work was concerned, I should follow partly the historical sites and partly the probably pre-historic settlements as my guides, so at 10 a. m. on March 2nd we left for Yao-ling.

The exact location of the tomb of Emperor Yao is a long-debated question. Previous to the Mongol Dynasty, this tomb was usually located in Shantung. The tomb in P'ing-yang Fu was not so well known at that time. The argument for its location in Shansi is that as Yao retired at quite an advanced age, it is improbable that he should subsequently have inspected his distant domains and died so far away from home. As the tomb in P'ing-yang Fu is near his supposed capital, it is probably the true one—if, indeed, there be a tomb of this Emperor; but since the very existence of such a person is doubtful, we can only consider both tombs as variations, merely, of the same myth. All these considerations passed through my mind while we were riding towards the tomb of the Emperor. When we inquired about the way to Yao-ling, the natives simply stared at us, and it was a long time before we made out that the local name for the place is Shên-lin (Spirit

Forest). There we arrived late in the evening and found it surrounded by a wall enclosing a building of modest size, a solitary temple in the midst of mountains, where we stayed that night.

The tomb is quite high, pyramidal in shape and half encircled by a rivulet (Fig. 5.3). It was officially lost for a long time, but was rediscovered in the Ming Dynasty, according to the inscription in the temple. The arguments as to whether this is the real tomb are difficult to follow; but in spite of them the question remains a question today, and undoubtedly will remain so until the spade of an archaeologist shall clear it up.



**Fig. 5.3**Chieh-hsiu: in front of Kuan-yao Miao

We worked about two hours in the morning and left this reputed resting place of the august Emperor at 10 a. m., arriving at Fou-shan Hsien late in the afternoon. On the fourth, we made very little progress. The ground was wet, and there were many steep ascents and descents. We covered about six miles in all and stopped at Hsiang-shui-ho. On this day I picked up my first piece of red pottery of an archaic character on a descending *loess* slope.

The next day we started early, while the ground was still wet. The road we followed lies deep down between *loess* cliffs. Such roads make it convenient to observe the exposed surface of the *loess*. The finding of the red pottery sherd was very encouraging and made me look carefully all along the way. Not long after we started from Hsiang-shui-ho, I began to see gray pottery sherds of the Chou and Han periods. All of a sudden I discerned a piece of red pottery decorated with black lying among the withered, wet grass. Then one after another came into view as we traced them to their source. It is a heap of earth about 10 feet in height and cut

down vertically on one side to the public road. The upper surface is a long and narrow strip. This piece of land is owned by the Li brothers, who most politely received me and helped me with their spades to gather samples of the painted sherds from the exposed surface of their mound. When I left them, they were very willing to pose for a picture (Fig. 5.4) by the side of the heap where these pottery sherds were discovered—the first Yang-shao site to be found in southern Shansi. The rest of the day's journey was a cheerful one, and at four in the afternoon we arrived at the city of I-ch'eng Hsien.



**Fig. 5.4**Supposed tomb of the Emperor Yao (from the southeast)

It was a whole day's journey from I-ch'eng to Chü-wo which, in turn, is about 60 *li* east of Chiang Chou—one of the most important cities in southern Shansi and a center for curio-dealers. At this city, the Fêng River turns westward. While we were in Chü-wo, we decided to pay a visit to Chiang Chou to have a look at the various curio shops in that city. This, I thought, might perhaps serve to help us in forming a notion as to the kinds of antiquities that are unearthed in this region. But this idea proved to be a delusion. All the curio-dealers have a common secret: if one inquires about the exact location of the place whence the things they exhibit come, the unanimous and invariable answer is that they do not know. In vain one may tell them that the curios would increase in value if their sources were known. Thus a whole day in Chiang Chou only convinced me that so far as real archaeological work is concerned, very little help can be derived from such people. Having gone to Chiang Chou from Chü-wo by the northern



route through Hou-ma, we returned over a bypath through mountains in the south which have been gradually elevated from the Fêng River valley by *loess* deposit. A day and a half were spent in exploring the terraces, and although no particular archaeological results were obtained on this trip, we had a fine chance to study the *loess* formation (Fig. 5.5), a certain knowledge of which, I think, is necessary, if the archaeology of southern Shansi is to be properly understood.



**Fig. 5.5** Site at Chiao-t'ou-ho where prehistoric pottery of the Yang-shao type was found

After we returned to Chü-wo, our next trip was to dash across Chung-t'iao-shan. This range, according to the local estimate, extends for about 800 *li* from east to west, parallel to the Yellow River on the south and the Fêng on the north, and inasmuch as early traditions about the Emperor Shun and the Hsia Dynasty are centered about these mountains, I decided to spend some time here. The next four days, therefore, were devoted to the crossing and recrossing Chung-t'ao-shan; but as we found no archaeological prospects here, we turned immediately northward to An-i Hsien and Yün-ch'êng.

We arrived at Yün-ch'êng in the evening of the 17th and entered the city on the 18th. On the 19th we set out to visit the supposed tomb of the Emperor Shun, and on the way stopped at certain temples in Yün-ch'êng. In *Shansi-t'ung-chih* (Vol. 52, p. 2), it is recorded that the stone pillars of these temples were formerly the palace pillars of Wei Hui-wang (335–370 A.D.), recovered from the ruined city south of An-i Hsien. Some of them are now used as the entrance pillars in Ch'ên-huang Miao and Hou-t'u

Miao, and those of Ch'ên-huang Miao certainly show peculiar features which are worth recording. Two pillars, hexagonal in section and carved with dragons coiled around them, are found at the entrance. The left one (Fig. 5.6) is especially interesting because in the claws of the dragon are grasped two human heads with perfect Grecian features: curly hair, aquiline and finely chiseled nose, small mouth, and receding cheeks. One head with the tongue sticking out is held at the mouth of the dragon, while the other is held in the talons of one hind leg. It is an unusually fine piece of sculpture in limestone, wonderfully spaced and with the most graceful lines. The right one is inferior in its workmanship: evidently, the two were not executed by the same hand. I saw 28 of this kind of pillar in the succeeding two days; but most of them were crude imitations. It is possible, however, that some are of the ancient type and were made earlier than others. The whole subject is well worth a more detailed study.

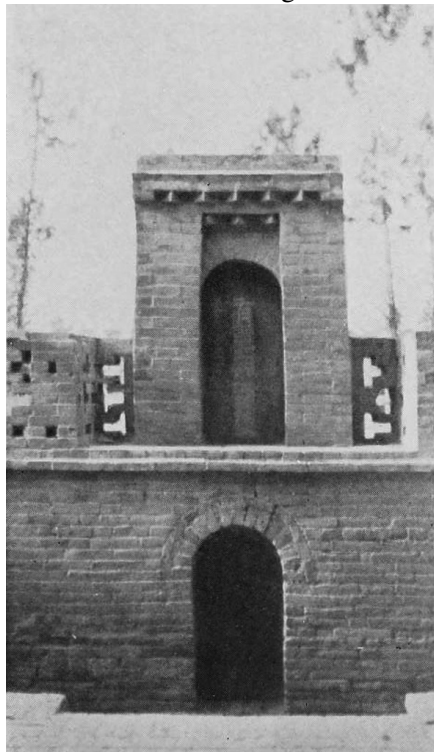


**Fig. 5.6** Loess terraces south of Chiang Chou

The tomb of Shun (Fig. 5.7) has a very different appearance from that of Yao. It is located about 30 *li* northwest of the city of An-i Hsien in the midst of a vast plain with apparently no natural barrier on any side to shelter it from “the wind and the water.” Half of the early references to the tomb of this emperor put its location at Ch’ang-wu. Yet Chang Chin-chün quite convincingly argued that it must be in An-i (*Shansi-t’ung-chih*, Vol.



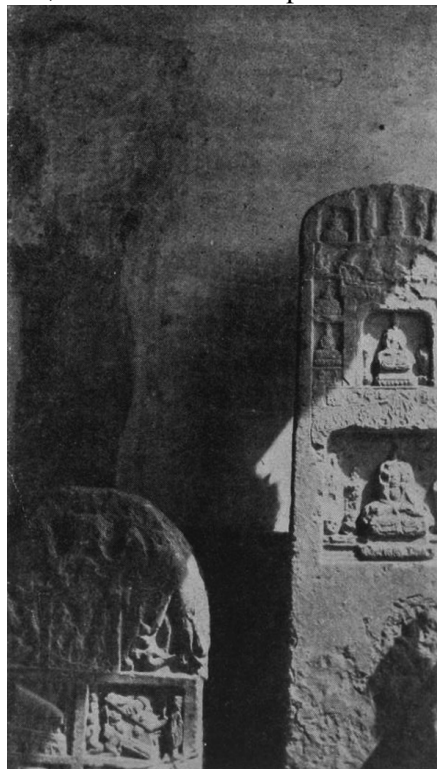
56, pp. 20–23). The problem is similar to that concerning the tomb of Yao, and consequently, the solution must be sought in the same way.



**Fig. 5.7**Details of the left-hand stone pillar at the entrance to Ch'ên-huang Miao, Yün-ch'êng

On the 20th, we were invited to dinner by the magistrate of An-i Hsien, Mr. Chêng, who is a student and collector of antiquities. He introduced us to a small museum in his *yamên* where he has gathered together a large number of Buddhist *stelae* and ancient tablets (Fig. 5.8) which were originally scattered all over the district of An-i. Only a part of all he found has been moved to his *yamên*; but his catalog includes those which still remain in the different villages. He draws rather a sharp line of demarcation and leaves all the post-Sung sculptures unrecorded. It is an unusual work that he is doing, and gives one a ray of hope that some of the ancient monuments in inland China may yet be preserved. After dinner, we were taken about the city, where we saw some more of the dragon pillars, mostly in Taoist temples. The ancient city itself, where some of these pillars are supposed to have been found, is less than a mile from the southern gate of An-i. The remains of the old wall are still visible, but, if the place was a

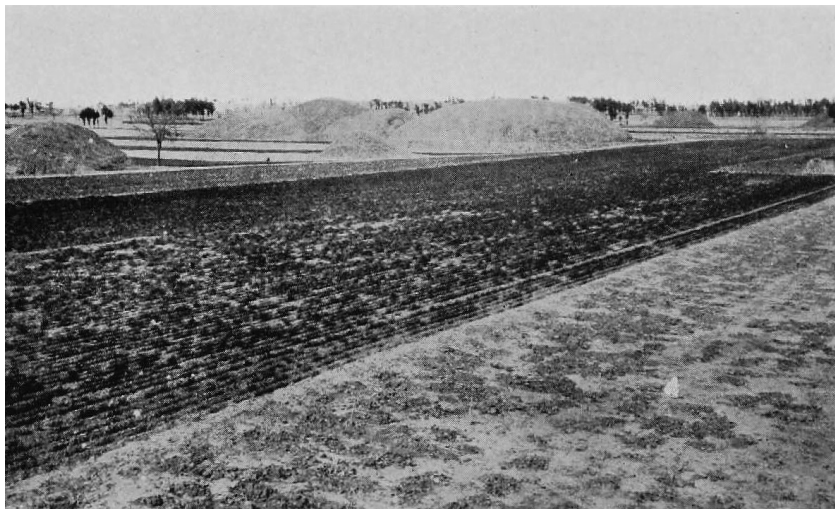
city at all, it was indeed a very small one, measuring about 400 by 250 yards. It may, however, be the site of an important ancient building.



**Fig. 5.8**Supposed tomb of the Emperor Shun

We left Yün-ch'êng on the 21st, and on the 22nd we arrived at Hsia Hsien—the center of the traditions of the ancient Hsia Dynasty. The temple of the Great Yü and the tombs of his descendants, as well as many of the famous ministers of that dynasty, are said to be located here, and all these I visited (Fig. 5.9); but I must confess that I am not at all able to determine whether, judged by their appearance, they are the real tombs or not. They all look like ordinary burial mounds, except that they are larger. However, while on our way to visit these tombs the unexpected happened. It was after riding through the village of Hsi-yin that, suddenly, a large field of prehistoric potteries was discovered! Mr. Yüan was the first to see it. The site (Fig. 5.10), extending to several *mou* of land, is apparently larger than the one we found at Chiao-t' u-ho, and the pottery is somewhat different, too. While we were picking up at random the sherds exposed on the surface, the villagers gathered in large number, so we did not stay very long

lest there be too much excitement created.



**Fig. 5.9**Type of Buddhist *stela* collected by the Magistrate of An-i Hsien



**Fig. 5.10**Supposed tombs of the Hsia emperors

When we left An-i Hsien, the magistrate had given us a copied list of the names and locations of the various votive stones which are still scattered in the different villages of his district, and as we were on our way northward again, we determined to stop and see some of them. Three places were visited on the 25th and the 26th, where besides *stelae*, we saw also a number of individual Buddhist figures which are preserved in good

condition, the most perfect piece being in San-lu-li Ts'un. Unfortunately, it is preserved in a dark room, where a picture could not be taken, as I had no flash light with me.

On the 26th, while Mr. Yüan went away on some special geological mission, I started for Chi-san Hsien to have a look at the so-called T'ang wall paintings at Hsiao-ning Ts'un, some of these paintings having been recently sold to curio-dealers who sent them to Peking for sale. Hsin-hua-shih is a Buddhist temple built in the 12th year of K'ai-huang of the Sui Dynasty near Ch'a-tien-chieh. It has been destroyed and repaired many times; but the front hall still retains some reminiscence of T'ang architecture. It is in the central and the third hall that the walls are painted on three sides. The paintings of the side walls of the third hall and those of the southern wall of the central hall (opening towards the north) have been taken away by curio-dealers. The rest is still intact; and the date is to be found on the northern wall of the third hall, being the *wu-hsü* year of Yüan (1298 or 1358 A.D.). The courtyard between the front hall and the central hall was locked, and my guide assured me that there was nothing worth seeing inside the yard. Nevertheless, I had him open it for me, in spite of his assurance, and by sheer accident, I found the protruding corner of a stone which lay buried in the ground. I asked the villagers to dig it out for me, and it proved to be a votive *stela* (Fig. 5.11) carved at the time when the temple was first built. This little discovery rounded out my trip, and from this day on I marched directly northward and returned to Peking.



*Fig. 5.11* Site at Hsi-yin Ts'un where prehistoric pottery was found

## Notes

Through the kind arrangements of Mr. Huang Tzŭ-sen, Magistrate of Chieh-hsiu Hsien, I was able to measure 86 of the natives of this district who are serving in the Army Training Camp and the Police Court. With the exception of my series of Huang-p'i and Huang-kang, this is the largest of any series of anthropometrical measurements made in any one district. The following 13 measurements were taken of each individual: stature, auditory height, sitting height, head length, head breadth, horizontal circumference, minimum frontal diameter, bizygomatic diameter, nasion-menton height, nasion-prosthion height, nasal height, and nasal breadth. Observations were also made of the following descriptive characters: hair color, eye, brow, chin, shape of nose, malar bone, shape of face, prognathism, teeth.

The total number of sherds is 127. Of these, 42 are painted. Of the painted, 20 are with rims: 6 with a bent rim, 1 with thickened rim, and 13 with a plain rim. The paint used is black. The ground color varies from light brown to dark brown. The patterns consist of triangles with three sides concave, or with two sides concave and one side straight or convex; straight lines; crescent moon; big round dot; cross-hatched lines; the shape

of X with horns elongated into straight lines; and parallel lines with big dots between. Of the 85 unpainted, 21 are gray in color and are decorated with incised lines in parallel, cross-hatched, or mixed directions; 2 are black and undecorated; 2 are dark violet and undecorated; 60 have the same ground color as the painted, and of these 17 are decorated with incised lines, 1 with ornamentation in relief, and 42 are plain. In addition to these potteries, there are also two broken pieces of finely made black stone rings, and a small piece of the shaft of a human ulna.

The total number is 86. Of these, 14 are painted. Of the painted, 7 have rims—3 bent and 4 plain. Triangles, straight lines, and big dots are the chief decorative patterns. They are often combined. Of the unpainted, 15 are gray or black in color and 57 are red or dark brown. Of the gray or black, 11 have incised lines and 4 are plain. Of the red, 34 are incised and 23 are plain. One complete, rather ill-shaped cup is found in this collection. It is dark gray in color and not uniformly fired. The diameter of the rim varies from 5.5 cm to 5.9 cm; the height is 5.3 cm. There are seven ridges at the bottom with seven finger depressions between the ridges.

In the list of ancient votive *stelae* given to me by the magistrate, there are 41 dated previous to the T'ang Dynasty. Of these, 28 have been moved to Fang kung-tz'ŭ, the museum in the magistrate's *yamên*. Twenty others are dated in T'ang and Sung, the latest date corresponding with 1101 A.D.

## 8. Some Anthropological Problems of China

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It is easier to speak with definiteness on problems concerning archaeology, linguistics, ethnology, and to a certain extent sociology and psychology than those concerning anthropology. The reason is not far to seek. Anthropology as a science, if it has long been conceived, is not yet born. It may never become a science. It has a greater chance to become a system of philosophy. But it is a good term to retain and useful for more than one purpose, since in the family of scientific vocabulary, it alone comprehends all the phases of humanistic study. One of its many definitions that have been handed down to us since its inception as a branch of scientific inquiry is: it aims to study man and his products. Ignoring the metaphysical dilemma upon which this definition rests, an anthropologist may enthusiastically go on working out his problem with a perfectly good conscience that he is making contributions to this great study of humanity. He is justified to do so. But his results will be either archaeological, ethnological, or linguistic, or any other of a sub-anthropological nature rather than anthropological in the strictest sense. They can be valuable only discreetly.

Anthropology conceived as a concourse of all humanistic studies has an inherent difficulty to tackle with. It all depends whether man can study himself in a really scientific sense, whether as William James once so curtly put in his discussion on introspection as a scientific method, one can

see the form and color of his own eyes by turning his eyes rapidly. The European answer to it is of course not to answer on the very sensible ground that it has never been answerable. One may almost say to himself with a feeling of relief that since there are definite groups of phenomena known by the term: Man, and others. His Products, why not study them as they are inductive with the recognized biological principle of evolution as the guidance! This has been the course generally pursued, and speaking at large, the position of European and American anthropologists up to the present time.

That is probably the only course from a European and American point of view. But a Chinaman is not necessarily bound to take it, even he wants to study anthropology. Nor does he have the right to, as he lacks that great history of scientific scholarship as his background which is at once the pride and burden of all Europeans. An Easterner is to be benefited by a knowledge of scientific development in the West, only in so far as it is negative. For failures are always to be avoided, while achievements shift their value from generation to generation, thus need constant reexamination. To this rule, the theory of evolution forms no exception.

In the long list of eminent scientists in Europe and America, there is perhaps no abler biological thinker than Darwin whose discourse on evolution culminates all scientific achievements of the nineteenth century. The almost divine attempt of Herbert Spencer to fit all natural phenomena into his conceived and conceivable pattern of evolution has never been challenged in regard to its fundamental premise. Today the one thing that a school teacher is sure to know is that man is descended from a kind of monkey. He will tell you that in the course of time, Baboon begets Gibbon, Gibbon begets Chimpanzee, Chimpanzee begets Gorilla, Gorilla begets *Pithecanthropus Erectus* and *Pithecanthropus Erectus* begets Man—strangely reminiscent of the Chapters on Genesis except the garment has changed its shape. The anthropological literature is literally saturated with Darwinism. Only lately, one eminent anthropologist has made this remark: anthropology is essentially a Darwinian science, accept Darwinism or reject anthropology. One discerns immediately that the *Zeitgeist* with which more than 10,000 articles on *Pithecanthropus Erectus* have been produced is still having its palmy days and the recent discovery of Rhodesiansis is likely to produce another scientific storm sweeping over five continents.

There is no necessity for anyone to renew the Agassizian controversy over Darwinism just now. Yet it does not take one long to find that the Darwinian tyranny, enlightened as it is, is irritating in many respects to



those who are devoting themselves to humanistic study. One finds too that some of the essential aspects of its meaning are extremely hollow. The interpretation of the survival of the fittest is only one of many examples that one can cite. Nor has there been a single successful experiment unveiling the mystery of heredity on which the whole Darwinian formula hangs. The net result is that there are as many interpretations of Darwinism as the number of interpreters. Thus it rivals the concept of God as a topic for speculation.

But Darwinism has stimulated research. As a working hypothesis, it still offers an immense potentiality for further exploration. The danger spot of the whole theory, which one apprehends, lies in its ossification with age into a rigid dogma which would deaden the scientific spirit that has been originally stimulated by it, and that, unfortunately, seems to be the present ten-theory in regard to the increasing zest shown by Europeans and Americans for anthropological study; it points out that this zest is impelled by their curiosity to prove how civilized they are rather than real scientific interest. This may also serve to explain the ponderous faith of Europeans in human progress and incidentally as the foundation of their Greco-Roman Mania. Whatever one may say, Europe is on the tip-top of civilization, and will always be so as long as there are heaven and earth. All anthropologists, therefore, must do their homage to the classical scholars from a European point of view. If any European dares to break this tradition, he will be ostracized and considered as an outlaw to his class defying their ancestral God: which is the greatest triumph of Darwinian dogma.

Of course, no serious-minded person would belittle the tradition of the Greeks and the Romans, or the theory of evolution as a pure hypothesis. It is altogether a different argument than self-pooled esteem that should lead an Easterner to start his scientific inquiry with thorough skepticism. Nothing harms one's mental habit so much as the acceptance of other's conclusion without first of all living through with their premises. The Chinese as a race is just beginning its serious scientific career; the first item on its program, if it works, ought to be an examination of all the Western scientific dogmas by studying their details. Moreover, his task is not only to de-Europeanize science, but also to denationalize himself as far as his attitude towards the object of his study is concerned. This applies particularly to those whose course of scientific pursuit is more of a humanistic nature in which the *ego* has a greater part to play.

The arguments advanced so far are intended to show that the anthropological problems of China are more than a purely technical question. It is true that we have many technical problems to solve. We need

an archaeological survey, an anthropometrical survey, an ethnographical survey and a linguistic survey, all of which require a vast amount of energy, and great ingenuity for the solution. Their immediate solution is the more necessary in order to dispel some of the common misconceptions about China entertained in some parts of the world and created intentionally or unintentionally by the pseudo-scientific attempt of some over-enthusiastic and self-appointed authorities of the Far East. But in the nature of the case, these problems, while difficult, are not baffling. Given time and money, they are capable of being solved within a fixed period. Looking from a different angle into this field, a Chinese anthropologist would feel the urgent necessity of transcending his national boundary. These are general problems which he alone, by virtue of the peculiar position that he occupies in the scientific world, can solve and from which responsibility he has no reason to evade. This brings us to the anthropological problem of China in its truest sense.

Certain premises have to be taken for granted before these problems could be brought out in the right perspective. They are time and changes. All genetic studies have time as their background. Anthropology if rightly studied is essentially a genetic science and depends mainly on its results on the historical and comparative methods. It is in this sense only that anthropology may be considered as an evolutionary science; for the only logical meaning of evolution is also the simplest, namely, time accompanied by change. As such, it does take a Hackel to speak of its final works, for the ancient Greeks have defined it for us long ago. When Herbert Spencer elaborated it in term of complexity and heterogeneity, he not only smothered the soul of this term but also betrayed a refreshing ignorance of human psychology and unconsciously led his younger contemporaries astray. It is he together with Huxley who is more responsible for the hunting expedition of all European and American anthropologists for Man in "his bodily frame the indelible stamp of his lowly origin" than Darwin's own words. There is nothing wrong in this, so far as it serves only as an impetus for further research, but it resulted in a distorted proportion of our knowledge about ourselves. Now we know a great deal more about our bones and muscles thus, linking our stock with the Simian family with a great deal of pride, than our own mind. The reason is that evolution in the Spencerian sense finds more confirmation in one's body than in one's soul.

Yet it is commonly admitted that the study of man must begin with that on his very self as a separate entity, rather than through the sounds that he could utter, the metals that he could shape, or the institutions that he could

build. These forces us back to face the metaphysical dilemma to which we have a moment ago referred. In the light of psychology as a science, it is altogether too early to give an adequate answer to the question of whether man can study his self. But the peculiar position of a Chinese who has acquired an Indo-European language as an organ of thinking in addition to his own native tongue suggests at least a possibility of avoiding this metaphysical dilemma.

For it may be argued, much of the difficulty arising out of the study of our own mental constitution is due to the impossibility of rendering an impartial account of it by the very language with which the mental habit is formed. The Chinese linguists, and the European orientalist too should they acquire it as a part of their mental equipment rather than as a fulfillment of their simple curiosity, have obtained a mirror. If the nature of the language does affect the mode of thinking, the knowledge of a second tongue totally different from the first would give him a clear reflection of the original mode.

It is the written language as well as the spoken language that is meant here. Language has been traditionally treated by European scientists as a collection of sounds instead of an expression of something inner and deeper than the vocal apparatus as it should be. The accumulative effect of language-symbols upon one's mental formulation is still an unexploited field. Dividing the world culture of the living races on this basis, one perceives a fundamental difference of its types between the alphabetical users and the hieroglyphic users, each of which has its own virtues and vices. Now with all respects to alphabetical civilization, it must be frankly stated that it has a grave and inherent defect in its lack of solidity. The most civilized portion under the alphabetical culture is also inhabited by the most fickle people. The history of the Western land repeats the same story over and over again. Thus up and down with the Greeks; up and down with Rome; up and down with the Arabs. The ancient Semitic and Hametic peoples are essentially alphabetic users, and their civilizations show the same lack of solidity as the Greeks and the Romans. Certainly, this phenomenon can be partially explained by the extra-fluidity of the alphabetical language which cannot be depended upon as a suitable organ to conserve any solid idea. Intellectual contents of these people may be likened to waterfalls and cataracts, rather than seas and oceans. No other people are richer in ideas than they; but no people would give up their valuable ideas as quickly as they do. Westerners have called their civilization dynamic which is essentially true and compatible with the nature of their language. But its mobile part is that of Tennyson's man

rather than that of his brook, for it apprehends its coming by going and never stays. "Nothing is new under the sun" is a European proverb; yet every European try to get something new every day, and also gives it away as soon as they have got it—a defect inherent in their civilization.

The Chinese language is by all means the counterpart of the alphabetic stock. It lacks most of the virtues that are found in the alphabetic language; but as an embodiment of simple and final truth, it is invulnerable to storm and stress. It has already protected the Chinese civilization for more than forty centuries. It is solid, square, and beautiful exactly as the spirit of it represents. Whether it is the spirit that has produced this language or whether this language has in turn accentuated the spirit remains to be determined.

The proposition laid out here is not for moralizing but for experimentalization. It is to be considered as the first anthropological problem of China. The science of psychology has already reached a stage of development at which an anthropologist may utilize its result to his advantage. The influence of lines and forms exerted on the mental content of a psychological observer has long been reckoned with. Certainly, it is reasonable to assume the existence of an intricate relation between the character of a written language on the one hand and the origin, growth, formulation, and mobility of ideas on the other, which could be experimentally determined. If in term of an alphabetical language, one can describe the influence of hieroglyphic writings on his thinking mode, and then reverse the process to identify the result, it would not be too much to expect that man has finally achieved a method to study his most supreme self in the most objective way.

To study linguistics on a psychological basis as an anthropological problem is by no means a radical idea. It is the only logical outcome of the scientific movement for the study of man. To correlate language, culture, and race with each other has already become an obsolete anthropological game. Classification of mankind on different anatomical basis could no longer be considered as the final goal of anthropological study just as the classification of a living organism can no longer be considered as the object of biological study. It is doubtful whether the classification of man should be considered as an anthropological problem at all; or granting that it is still of some use, whether it should rest on an anatomical basis. But at any rate, it could be considered only as a means for further end. The most wayward development of the modern anthropological study is the gross assumption by anthropologists of a concomitant variation between body and mind. This is due more to the lack of psychological knowledge than any other single

cause. The only remedy to it is a genetic study of mind for which the hieroglyphic alphabetic method has been proposed.

To study mind on its own account and ascertain its different types and laws in order to give a more vital stimulus to anthropological study as well as a living interpretation of the existing anthropological data must be based on a broadly defined principle of evolution rather than by restrained Darwinian formulae which necessitates the assumption of a monotypical nature and hampers the range of investigation. The two types of language, for instance, which we have considered cannot be possibly explained on the old-fashioned evolutionary basis. This bi-lineal development suggests plainly other cultured phases of a similar nature, and sufficiently warrants us to take a departure from the orthodox anthropological method.

If the above considerations are of logical possibilities, it is evident that the other anthropological problems of China are to be deduced therefrom. Of course, everybody is interested in the origin of the Chinese and their relation with the other races. In the light of our present knowledge, which is extremely limited, it is to be said that the Chinese are extremely heterogeneous and their origin is quite obscure. Thus it justifies a thorough anatomical and anthropological survey not only of the [Han] Chinese themselves, but also the Aborigines found in the Southwest of China, the Tibetans, Mongolians, and the Siberians, all of whom have contributed their quota to the formation of the Chinese. To this must be added the linguistic study by means of phonology, which, however, can be of use only as an accessory to the psychological method. As for the social institutions and the meaning of the different phases of material culture, they are closely dependent on their interpretation upon a revelation of the Chinese type of mind which I consider as qualitatively different from the alphabetical races. Facts are what we need to prove this thesis. The duty of a Chinese anthropologist at present is to collect facts.

# 6. Some Anthropological Problems of China: Reconsidered

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Forty years ago, when the American Association for the Advancement of Science held its annual conference in Boston in 1922, I was persuaded and encouraged by my fellow students and teachers in the Peabody Museum at Harvard University to discuss publicly my youthful ideas about Chinese anthropology at a scheduled meeting of the anthropological section of the Association. As a result, a paper entitled “Some Anthropological Problems of China” was read before the gathering of some of the leading anthropologists of North America, including such eminent authorities as Franz Boas, Clark Wissler, Alfred L. Kroeber, Roland B. Dixon, and a number of others. As I had the whole area of China to speculate upon, I found myself at a great advantage. The very topic aroused curiosity in the distinguished audience. One evening paper in Boston even gave a column to the event, and later on, the editor of the *Harvard Graduates Magazine* must have thought rather well of the paper: for it was published in its subsequent issue.<sup>1</sup>

I recall this episode because it is needed as a background against which I am going to discuss certain anthropological problems of China which we are facing today. In the paper that I read 40 years ago, as one of the early

pioneers in the anthropological inquiry into the vast, unexplored Chinese field, I pleaded for an overall consideration of what I thought to be the preliminary requirements in this area. I advocated the simultaneous undertaking of an anthropometrical survey, a linguistic survey, and an archaeological survey. I told that august body of learned men that in order to find out anything about the Chinese people, it is absolutely necessary first to collect systematically these relevant scientific data. I also mentioned certain specific problems, as they then occurred to me; and I said that if one wished to understand the nature of Chinese civilization, one must start with a thorough investigation of the Chinese written language. The paper was a short one, but the needs I presented and the problems I listed, definitely impressed my audience. Some of the senior members present in the meeting commented that there was something in what I said.

It has been happy for me a piece of a fortuitous coincidence that for the past 40 years I have been able to follow uninterruptedly the course of my chosen profession though not without its accompanying vicissitudes. I have worked a little and thought more; but I have seen much. So it is to my own interest and in a way an amusing piece of experience to compare what I like to say today with what I did say 40 years ago.

Today, China is no longer a virgin field for any anthropologist; it is true that the systematic surveys which I advocated in my student days were never systematically carried out. But there have been numerous individual and collective field works in anthropology and in related subjects in the past 40 years. Quite a number of them are of first-rate scientific quality. Many of you no doubt are familiar with the archaeological discoveries accomplished in China between 1920 and 1960. In linguistics, there have also been important contributions not only in the systematic recording of dialectic studies, but also in theoretical phonetics. It is in physical anthropology that the progress has been comparatively slow. Nevertheless, everybody knows something about the Peking Man, whose discovery was itself a milestone that marked the progress of palaeoanatomical research in the scientific world. But one must admit, however, that in the study of historical Chinese, the interest in their bodily changes has not been properly developed, though even in this respect, there are not without some important contributions. So, on the whole, we can say that as far as China is concerned, we have in each of the three important branches of the anthropological science, accumulated enough reliable data which may be used either for comparative purpose, or for the advancement of such scientific inquiries on a broader basis. In other words, we have broken the field; what needs to be done further is to continue its cultivation and wait

for the harvest.

The first-hand materials collected by trained workers have certainly clarified a great deal of the myth about the Chinese people; they not only have solved a number of old problems, but also, what is even more important, have led to the discovery of many new ones.

As these problems are many-sided and complicated in nature, let me confine myself to a few examples. First and foremost, I should like to take up the problem of the physical anthropology of the Chinese people. The Chinese people, as is well-known, have always been classified as a branch of the Mongoloid race ever since anthropologists started classifying mankind. What do we know about the Mongoloid race? The question, unfortunately, is rather difficult to answer, even for the best authority on the racial history of man. Recently it has been suggested that the most representative physical traits of a Mongoloid are found on his face. They are: the almond eyes, the flattish forehead, the more or less depressed nasal root, the broad, heavily patted cheekbone. And there is also a theory to explain their origin and evolution. Professor Carleton Coon, the ablest exponent of this theory, is of the opinion that the particular facial appearance of the Mongoloid people was originated from the necessity of fighting against the bitterly cold weather during the last glacial age, when a group of early Mongoloid was trapped in dry cold region in northeastern Siberia. According to this theory, the people at that time had already invented shelter and clothing which were sufficient to keep their body in a comfortable and balanced condition. But their face was by necessity exposed. So this severe cold climate wiped out the unfit by pneumonia and sinus infection; while those who happen to be protected in the sinus region and eye region by a thick layer of fatty substance and a small nasal aperture, were better qualified to survive in this cold climate than otherwise. The result of this severe struggle, as one sees, is the development of the Mongoloid face.

If we started with this definition of the Mongoloid and applied it to a racial study of the Chinese people, we would encounter from time to time some highly interesting problems. It is rather difficult to find typical examples of the Mongoloid among the Chinese people according to this definition, as difficult as, say, one should try to find a typical Nordic man or a Nordic woman in Switzerland in accordance with the definition of a taxonomist. It is true, that there are isolated examples of individual Chinese here and there, whose physical appearance may fit into the above definition. Yet they hardly constitute a type.

The physical type of the Chinese people as studied in the last 40 years,



shows a great deal of variation in stature, head form, nasal form, and even in pigmentation. One finds it, for instance, as in the case of the skeletal materials collected from the famous Anyang site, far from being homogeneous. The standard deviation calculated from a study of the cranial index of this series, is considerably beyond the normal range, definitely indicating the miscellaneous origins of the skulls composing the series. I have occasionally tried to study the changes in physical type of the Chinese people in two different respects: geographical variation and historical evolution. While the data gathered are hardly enough to base any definite conclusion, they are nevertheless, quite illuminating. The great scope of geographical variation may be best illustrated by a survey of the regional distribution of the Chinese stature, head index, and nasal index. The northern Chinese for instance, is much taller than the southerners by an average sometime as great as almost 9 cm. As for the cephalic index, the Chinese people also differ in different parts of China. It has been found that both in eastern Shantung and western Kansu, there are concentrations of some comparatively long-headed people; while in central China, as Hunan, southern Hupei, and certain parts of Fukien, the local inhabitants are quite broad-headed; but in general, the cephalic index of the southern Chinese is usually given as a little below 80, and the published figure for the northern average is over 81.

In the case of a nasal index, the contrast between the north and the south, is even greater. Paul S. Stevenson calculated the northern average as 68.66; S. M. Shirokogorff, on the other hand, figured that the southern average is as high as 93.19. All the above-mentioned results have aroused some popular interest, and are usually believed to be anthropologically significant. But none of them is considered by any anthropologist as relating to a typical Mongoloid character.

For typical Mongoloid traits investigated among the Chinese, we may take the study of the bi-zygomatic breadth as an example. We have at present more information about the result of this study than any other physical characteristics, associated with the Mongoloid race. In 1932, *Biometrika* published a paper on a preliminary classification of Asiatic races by T. L. Woo and G. M. Morant. In this paper, 18 series of Mongoloid people, *alias* oriental races, were cited. The average values of bi-zygomatic breadth for the six series of northern Mongols range from approximately 140 mm to 144 mm; but those for the five series of Chinese and Japanese and seven series of southern orientals are found to be between 131 and 135 mm only; whereas the average of the same measurement for the five Indian series studied in the same paper falls down to the min-max

range of 124–128 mm. Thus, the sharp contrast of the same measurement, appears not only between the orientals and non-orientals, but also between the sub-groups of the orientals, which is even more striking. The excessively large value of the average facial breadth of the northern Mongols constitutes without a doubt a truly characteristic feature of the Mongoloid people. These people are mainly located at present in outer Mongolia and southern Siberia with the centers of their settlements in the neighborhood of Lake Baikal, Mt. Altai, and the City of Urga, all north of the Gobi Desert.

Broadly speaking, the average of the facial breadth of the Mongoloid people as represented by the Chinese and Japanese dropped nearly one cm. as compared with the northern Mongols. Whether the sudden decrease of this absolute measurement south of the Gobi Desert is due to environmental change or race mixture, or both, it is not easy to say. I have collected some historical data that may also be cited here. The measurements of bi-zygomatic breadth of the Chinese in various periods; for

These samples were all taken from North China. It would be dangerous to make too much out of these figures; nevertheless, it is worth noting that the Chinese, at least the North China inhabitants, have not remained stable in the historical time even in this typical Mongoloid physical character.

The change of the bi-zygomatic measurement of the Chinese in the historical period is correlated with parallel changes in the cephalic index: of which the aeneolithic average is 74.96; that for the Shang Dynasty is 76.96; and the three north China modern series are given as: 77.56, 78.0, and 78.1 respectively. It may be remarked that brachycephalization as observed by a number of anthropologists in the past decade, is a general tendency among *Homo sapiens*; so there may not be any special historical significance as far as these figures are concerned. But there are other results, given in Woo and Morant's paper, which are of undeniable great historical importance. They found, by means of the formula known as the Coefficient of Racial Likeness, a formula much used by the biometricians, that the Chinese and Japanese cranial series are highly differentiated from the northern Mongol series in other respects too. They are so different from the northern Mongols, that by a series of comparative studies, it has been demonstrated beyond any doubt that the Chinese and the Japanese are much more closely related to the southern Orientals, which include the Malaysians, the Tagals, the Dayaks, the Javanese, the Burmese, the Shans. Even the various Indian series seem to be closer to the Chinese and Japanese in their cranial

structure than the northern Mongols.

It may be pointed out here, also, that of the four Chinese cranial series employed in the above study, three were collected in North China, mainly from Hopei, Shantung, and southern Manchuria. And one of the three series is from neolithic time. Everybody knows that in historical time, China was repeatedly invaded by the northern barbarians, which started some of the great population movements known in eastern Asia. In each case, the result was that many of the nomadic tribes from the Mongolian steppe, settled in north China, especially in the Yellow River basin, where the original population had mostly migrated southward. What deserves our particular attention here is that the northern Mongols not only had contributed a Genghis Khan to world history, but also founded a dynasty for China, which lasted nearly a century. It is therefore an anthropological puzzle, as well as a historical myth, that the modern Chinese population should have almost no representation from the kins of Genghis Khan and his horde, according to the analysis of physical anthropology.

It may be too early yet to discuss this question. When more physical data are accumulated, the very nature of the problem may become completely metamorphosed. Still, the comparatively closer tie, which the Chinese people as a whole, have shown for the southern Orientals as compared with the northern Mongols, may be accepted as a piece of important anthropological observation, that may stay long and stand enduring test. Recent discoveries of fossil men, south of the Yangtze River, also serve to indicate that more important contributions were made from the south toward the composition of the early population of China than from any other quarters; and, of course, Peking Man himself, as many eminent anthropologists suggested more than once, was probably of southern origin.

When we turn our attention from somatology to cultural problems, we find ourselves in a less speculative position. Archaeological discoveries in this half a century, have made it quite clear, that the historical civilization of China was neither a complete gift from the west, nor a sudden development from an unknown origin. Like all other old-world cultures, it was gradually evolved from a prehistorical past, which goes back to many hundreds of thousand years. If anything is remarkable about the cultural phenomenon of this area, it is its continuity despite the disconformities at several stages of its evolution; and as scientific archaeology progresses, these apparent gaps one after another are gradually closed. For instance, not long ago, all prehistorians had the impression that, with the exception of Peking Man and his culture, there were no early paleolithic remains in this

area to speak of; but now, new discoveries in the valley of the upper Yellow River have disclosed many sites of this period. Again not more than a decade ago, another impression among prehistorical archaeologists was, that *Pithecanthropus* migrated to the neighborhood of Peking from Java, without leaving any traces on his way; but recent fossil finds, south of the Yangtze River, certainly prove that the contrary is the case. Coming down to more recent times, many of us still believe that there is a big gap between the hunting culture of the late paleolithic age and the sedentary village culture of the advanced neolithic period for Chinese prehistorians to account for. In other words, so far, Chinese archaeologists have not been able to prove the existence in the Chinese soil of any genuine mesolithic culture or an early neolithic civilization. Then, we have the problem of the beginning of the bronze age, and that of the Chinese written symbols, which could hardly have been evolved from the widespread Yang Shao or Lung Shan culture. All these problems, many of us may have to admit, are impressive, challenging, and quite realistic. But, when they are more carefully scrutinized, it is equally obvious that if these questions appear imponderable, it is mainly because they are conceived on a holistic basis; which, one may observe, is the usual way that European and American scholars have studied Chinese civilization in the past 300 years. Should they be approached from an anthropological viewpoint and defined with greater precision, those gaps apparent in the beginning might soon vanish in the course of accumulated new evidences.

As an anthropologist, one is more accustomed to treat his problem analytically; he is willing to pay more attention to what is usually considered as trifles; he views culture from many different angles and in all comparable perspectives. One finds this method of approach particularly effective in an inquiry, when terms, as “Neolithic” or “bronze age” are involved. An investigator with preliminary training in comparative ethnology will find it easier to itemize the contents of those cultures, as indicated by these terms. And in his customary way, he may treat the diffusion and evolution of all the individual items before making any attempt to draw big conclusions. Following this method of approach, one often finds that the so-called historical-cultural gaps in the areas treated, existed more on the foundation of ignorance than on actual facts. But it is important to realize that those gaps so frequently given in a number of responsible statements, have to be bridged by the accumulation of new facts, as well as by the adoption of a new method.

If we study the beginning of early Chinese civilization in this spirit, we can at least say that the way to solve this complicated and highly difficult

problem is clear and plain. I have myself reported on the results of my investigation in the question of the ancient Chinese ceramics based on the materials collected from the Anyang excavation. I discovered in this study that the pottery of the Shang Dynasty is divisible into several distinct groups; what interested me particularly is to find that the contemporary ceremonial bronze vessels did not at all reproduce the shapes of the pottery of this period. They are clearly imitations of the earthen wares of the late neolithic culture located mainly in the coastal region. But shape is only one aspect of what may be studied of the bronze vessels; and bronze vessels form only a part of the bronze culture complex. Another avenue of approach is the study of the decorative art found on the bronze articles. Here again one may investigate either the individual pattern or the complete composition. In the case of the Anyang collection, one will find that some of the bronzes are nakedly plain, some are richly adorned; some are covered with bands of simple figures; some are decorated by intricately composed designs. The ornaments may be plainly executed or inlaid with shells and colored stones; and, a number of these are cast in high relief. These different modes of expression may be reasonably taken as a definite indication of the many diversified backgrounds, datable to an earlier age, which jointly led to the final development and efflorescence of this creative art.

This decorative art of the bronzes may also be compared with similar art in the medium of bone, wood, stone, etc., of which there are more and more reliable materials uncovered by field archaeologists. The results of such analytical studies and comparisons will do much to close the gaps in one's knowledge.

There are of course other finds of this period which may be treated in the same way; in fact, they can only be best studied by a similar method. Unless and until all the more important items of the cultural content of this complex have been thoroughly covered, it may be advisable to exercise some restraint in pronouncing one's view about the general nature of the Chinese Bronze Age.

I have taken this particular example and gone into it in some detail for one fundamental reason, that is, if the task of dating the Bronze Age of China is to be undertaken with some scientific care, one has to start with a group of artifacts whose provenances are definite and identifications precise. If this basic study could be carried on as a paleontologist studies his fossils in order and in detail, then, one might, with some justification, proceed to compare it with similar studies from other regions and induce generalizations. Very unfortunately, few publications of the present day can

meet this test, except what has been reported from fieldworks recently.

It is therefore gratifying to note that in recent years not only are there more and more field anthropologists appearing in the Far East; but what is even more significant, is that the anthropological approach is gradually extending its influences even to historians.

When Professor E.G. Pulleyblank delivered his inaugural lecture on taking the chair of Professor of Chinese at the University of Cambridge (1953), he said:

...if we will have the patience and perseverance to study Chinese history in its sources with the thoroughness and care that we expect in other scholarly discipline, if we do this not in a narrow spirit of pedantry but with our minds alert to the perennial problems, that have assailed mankind everywhere...the basic biological urges of hunger and sex, the inadequacies of established social patterns to deal with new conditions, the oppression of the weak by the strong and the reaction of men driven to desperation, the universal aesthetic and religious aspirations of mankind, the problems of power and corruption...if we do this with imagination, but with imagination that will not go beyond what can be verified by evidence, we shall, I am sure, find that Chinese history throws light on our own history in countless ways and that mankind is indeed one.

Then Professor Pulleyblank continued to suggest the two practical methods of procedure: namely by piece-meal comparison and by detailed studies of the actual context. One may say that to an ethnologist, there is nothing new in Professor Pulleyblank's recommendation; but what is really important in his suggestions is the fact that a Cambridge professor now publicly advises his English speaking audience, the adoption of a scientific method in the study of Chinese history, which up to very recent years, had not been taken really seriously in the West, in spite of the fact that sinology had already an established chair in Europe's most well-known center of learning at the beginning of the nineteenth century.

For almost three centuries, Chinese civilization in the opinions of European scholars, was held either in the highest esteem or in utter contempt. In either case, it was the outcome of an attempt to reduce an enormous and complicated panorama into a simplified image, strangely akin in their labor to that of an ancient Chinese landscape painter or a modern cartoonist, who can in his inspired moment make his subject matter

sublime or ridiculous by means of a few strokes of the brush.

The tendency to the holistic characterization of the Chinese civilization has been the dominant note of most European works on China, ever since Europe became interested in Cathay. While the Voltairians and Sinophiles idealized Chinese culture with some exaggeration, it was more than counterbalanced by the Hegelian assault and the onslaught of its communist descendents; but both schools shared the same unconscious habit; they both suffered a deficiency in what the late Dr. Hu Shih called “evidential thinking.”

One of the fetishes resulting, from this eccentric development which still survives in some academic circles is the strange belief that a sinologist can study Chinese civilization without a competent knowledge of the Chinese written language. So when professor Pulleyblank preceded the main point in his inauguration address: with a “if,” one gets the impression that he did so with a great deal of courage and knowledge of the facts.

For a new historian to study China, however, a mere knowledge of the Chinese language is but the first step towards his necessary preparation. He should in addition learn and become quite familiar with what is being taught in current anthropology at large. He can learn something useful from every branch of the science of man, especially from what these scientists have to say about the unity of modern man and his ancestors, and the antiquity of human culture.

From physical anthropology, the historian may learn the fact that while racial differences may appear to be real, the changes that take place constantly in the human physical type everywhere...for whatever reasons...have compelled many observant anthropologists and biologists to start questioning whether the term “race” could still serve any useful purpose in human biology.

From prehistorical archaeology and ethnology, the historian may learn much about cultural types, their local characteristics and their mutual relations. He may also learn the fundamental lesson that no natural or artificial barrier could stop the spread of basic inventions if they served any human needs. And, no basic invention could be identified with or monopolized by any particular regional group or a chosen people.

These lessons are useful to all historians. They are probably the best cures and the most effective correctives of parochialism, to which in one form or another, be it national attachment, religious ties, political affiliation, or partnership in the same philosophical ideas, not to mention the various common expressions of local bias and race prejudice, historians of all lands and all ages are prone to be addicted.

But for historians who are interested in Chinese civilization, there are some extra-curricula. I need, perhaps, to elaborate this point a little more. What I mean is that although theoretically speaking well educated Chinese, according to present-day standard, is supposed to be able to handle both his own mother tongue and at least one European language, but in reality, such attainment is comparatively rare. So there is a scientific need, or a practical demand, in the international community of learning, of a group of trained historians and anthropologists, who can handle the Chinese language in both the written and spoken form as efficiently as one of the European languages.

With this as an introductory note, my proposition is that the problem of "Chinese Thought and Institutions,"<sup>2</sup> a research program very much in vogue now in America, should be approached on a more strictly anthropological basis. There seems to be little doubt that much of what strikes the uninitiated as peculiar in Chinese institutions and Chinese thought may find its nearest explanation in the Chinese written language.

The Chinese have developed a written language with an uninterrupted continuity of more than 3,000 years. It is a language in which new ideas in most cases are registered by the merging of meaningful symbols into one single character; in which, word-order and the ordering of words are the most conspicuous features in grammatical construction; in which tones and intonations have played a rôle unparalleled in any alphabetical language; and in which, symmetry outweighs any syllogistic consideration in every form of literary production. All these peculiarities have been closely interwoven into the fabric of the mental life of the educated Chinese and are strongly reflected in the institutions with which the literati class is intimately associated.

Now here comes my main point. As an investigator in the problems of "Chinese Thought and Institutions," while one may find much useful information by the patient and intelligent examination of Chinese records from the original sources, in order to make his search really up-to-date he will have to supplement his documentary study with some direct observations. These supplementary evidences are especially needed in the studies of "Chinese Thought," about which documentary data, in the majority of cases, may be so remote from realities that they can hardly reveal its true or complete nature. They should at least be checked with more experimental investigations which ought to be obtainable by studying Chinese mental process in actual operation. The way to do it is of course somewhat delicate, and extremely difficult; it involves many interdepartmental disciplines. If I am permitted to make some suggestions



here, let me call this special recommendation the psycho-bilingual-anthropological approach. The participant in this program must learn, as one of the fundamental requirements, to do his thinking in spoken as well as written Chinese; and secondly, he must be able to introspect objectively his thinking process done in the Chinese, and record it in another language with which he is equally familiar.

If I am inclined to believe that this particular group of anthropological problems of China ought to be easier for a Chinese scholar to handle, my main reason is that, a Chinese scholar is supposed to possess the initial advantage of speaking Chinese as a mother tongue. With this initial advantage, if he acquires a thorough training in the scientific method and learns his foreign language well, what he needs further will be only a spirit of intellectual adventure and a sense of this particular problem. At any rate, the time has certainly come that some Chinese scholars should study their own mental characteristics; for in addition to the scientific value and the intrinsic interest in the problems themselves, they are a part of the fountain source from which all primary data of Chinese Thought may issue. On the other hand, non-Chinese scholars who have already developed an interest in the evolution of Chinese Thought and Chinese Institution, and who, besides, are naturally more objective in dealing with problems of this kind, have all the reasons to go to the root of the question by a more daring and direct approach as suggested above. It would be interesting, too, to find out whether introspective psychology could still revitalize its function by lending its technique to a new mode of operation in the study of the proposed thesis. In my judgment, and with all the premises as laid above, the psychological situation so created may be as appropriate as one can make for the conduct of such an experiment. Let us hope that before long, there may be some qualified and adventurous spirit who will be willing enough to try.

## Footnotes

1

1923, Vol. 31, No. 123, pp. 346–351.

2

*Chinese Thought and Institutions*, edited by John K. Fairbank, published by the University of Chicago Press since 1957.

# 7. Racial History of the Chinese People

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Ever since anthropologists started classifying man as a natural animal the Chinese people have always been considered to be a branch of the Mongoloid race. There are many different opinions regarding the exact position of the Chinese in this racial classification. But from the time of Blumenbach down to Professor William Howells, who made his latest statement in 1961, the racial status of the Chinese in the eyes of specialists has remained very much the same: they are Mongoloid. So in order to orientate ourselves into the racial history of the Chinese people, it may be pertinent to say a few words about the Mongoloid race first.

But this, unfortunately, is rather a difficult task. What I mean is that physical anthropologists at present do not know very much about the origin and the evolution of the Mongoloid, although they have advanced a number of theories to interpret the physical characteristics of this particular branch of modern man. It has been, however, generally agreed that the most representative physical traits of the Mongoloid are found in his physiognomy. The characteristics of the modern Mongoloid man, it is often said, are revealed more by his face than any other part of his body. These traits include the almond eye with the Mongoloid folds, the flattish forehead, the more or less depressed nasal root, and the broad heavily patted cheekbone. In other words, the Mongoloid face as compared with either the Caucasoid or the Negroid, looks flat. The best-known theory

advanced to account for the origin and development of the Mongoloid facial characteristics is the climatic interpretation, which has been very eloquently expounded by Professor Carleton Coon and supported widely by many others.

The particular facial appearance of the Mongoloid people had its origin, according to this theory, in the necessity of fighting against the bitterly cold weather during the last glacial age, when a group of early Mongoloids was trapped in the dry cold region somewhere east of the Ural Mountains in northeastern Siberia. Man at that time had already invented both shelter and clothing which were sufficient to protect his body, but his face was by necessity exposed. This severe cold climate wiped out those who were physically unfit by the spread of pneumonia and sinus infection. Those who happen to be naturally protected in the sinus region and the eye region by a heavily padded layer of fatty substance and possessed smaller nasal apertures were better qualified to survive in this kind of climate than their fellow-creatures devoid of these natural gifts. The result of this severe struggle is the development of the Mongoloid physiognomy.

It is also postulated in this theory that the evolution of the Mongoloid face started after the first migration of *Homo sapiens* to the new world. Professor Howells suggested that the Mongoloid face probably originated sometime between 25,000 and 10,000 B.C. He believes that about 600 generations were needed for the development of this group of physical characteristics.

It is obvious that this theory, although ingenious in several respects, still leaves the origin of the early Mongoloid in the category of a myth. At any rate, there still remain a number of other bodily characteristics, also considered to be typical of the Mongoloid race, such as the hair structure, the pigmentation, and the peculiar anatomy of the incisor teeth, which certainly need another theory to explain them.

## 7.1 Physical Anthropology of the Chinese People

So much for the Mongoloid race in general. Let us now turn our attention to the physical characteristics of the Chinese people, who are an offshoot of the Mongoloid race. One of the best papers on the anthropometry of the Chinese is that of Professor Paul H. Stevenson, who measured more than one thousand Chinese soldiers recruited mainly from the north China plain.

This paper was published by the Academia Sinica in 1938. The author made 66 direct body measurements of these soldiers. In addition, he also recorded quite a number of non-metrical characters: namely, the skin color, the hair structure, the nasal form, etc. In this paper, one may find some of the most reliable data about the bodily characteristics of the Chinese of the three provinces, Honan, Hopei, and Shantung, where ancient Chinese civilization had its roots. With this paper as a reference point, one finds from the various physical measurements published from time to time by a number of investigators that the Chinese people are by no means homogeneous in their physical attributes; they vary from locality to locality. For example, the northern Chinese are taller than the southern Chinese by an average of sometimes as much as 9 cm, depending of course on where the samples are taken. Another instance that may be taken is the head form. One finds in Shantung as well as in Kansu concentrations of long-headed people, while in central China, like Hunan, Hupeh, and certain parts of Fukien near the eastern coast, the local populations are quite broad-headed, the average index often exceeding 85. But in the textbooks, the cephalic index of the southern Chinese is usually given as a little below 80, and for the northern Chinese, it is 81. In the case of the nasal index, the contrast between the north and the south, according to published figures, is really striking. The northern average given by Stevenson is 68.66, while Shirokogoroff calculated the southern average as 93.91!

As we all know, stature, cephalic index, and nasal index are of considerable popular interest and have usually been taken as anthropologically significant by many professional anthropologists in the past. Unfortunately, so far as the Chinese area is concerned, the qualities of the published data are of unequal value. Nevertheless, they have served the purpose of showing the great variability of the physical characteristics of the living Chinese population, which is confirmed also by some osteological measurements.

But none of these three measurements represents any typical Mongoloid character. Of the typical Mongoloid characteristics studied in current anthropology, two deserve special mention: one is the so-called almond eye, the other is the high cheekbone. While both characteristics distinguish the Mongoloid from other living races, the latter possesses the additional merit of being measurable on the skull as well as on the living face. The anatomy of the Mongoloid malar bone has been examined in every detail by many eminent physical anthropologists. Let us see what has been found out about these two racial traits among the Chinese people.

In the Stevenson paper, out of the 921 observations he made on the

eyes of his soldiers, only 30.7% of them possessed the marked Mongoloid fold, 8.9% were found to be without any trace of it, while the remaining 60.4% were recorded as intermediate cases between the two extremes. Regarding the direction of the eye-slits there were 906 observations in his record; of these 14% were classified as horizontal, 5.1% as markedly sloping. The others, more than 80.0% of the total number, were only moderately or slightly sloping.

The malar bone is more capable of a number of direct measurements, of which the maximum bi-zygomatic width is especially important as its measurement can be carried on accurately on both the living person and the dead skull. In 1932, *Biometrika* published a preliminary classification of Asiatic races based on cranial measurements. In this study, by T. L. Woo and G. M. Morant, twenty-six published series of cranial materials were used for comparison. Out of these twenty-six series, no less than eighteen series were skulls of the Oriental or Mongoloid people. The authors of this paper divided the Orientals into three sub-groups: 1. the northern Mongolian, 2. the Chinese and the Japanese, and 3. other Orientals, including in these inhabitants of Java, Borneo, the Philippine Islands, etc. This tripartite division is based mainly on what the biometricians call "The Coefficient of Racial Likeness."

According to these authors, the average value of the bi-zygomatic measurement for the six series of the northern Mongols ranges from 139.5 mm to 144 mm; for the five series of the Chinese and the Japanese, its range is from 132.2 mm to 134.7 mm; for the seven series of the other Orientals, it is 131.0 mm to 134.7 mm; whereas the value of the same measurement for the five Indian series studied in the same paper, diminish to the min-max range of 124.3–127.8 mm.

Thus the sharp contrast of the same measurements appears not only between the Orientals and the non-Orientals, but also among the three sub-groups of the Orientals. The excessively large value of the average cranial bi-zygomatic diameter of the northern Mongols constitutes obviously a characteristic feature of the Mongoloid race; they are, at the present time, mainly located in the neighborhood of Lake Baikal and the Altai mountains; the settlement area of this broad-faced population is apparently confined to central, eastern and southern Siberia, much to the north of the great Gobi Belt.

Generally speaking the average facial diameter of the Chinese and the Japanese according to the measurements of the skulls, shows a drop of more than half a centimeter as compared with the northern Mongols. Whether the sudden decrease of this absolute measurement south of the

Gobi desert is due to environmental influence or a racial mixture or both, it is not easy to say. Six years ago, I collected some historical data which may also be referred to here. They are the measurements of the bi-zygomatic diameter of the Chinese cranial series from various datable periods:

Recently the osteological laboratory of the Institute of History and Philology of Academia Sinica at Nankang issued a preliminary report summarizing the results of a very extensive osteometric analysis of the Yin-Shang dynasty crania excavated by the Institute from the Anyang area, totaling more than 300 in the whole collection. Of these, there are 272 specimens whose facial bones are sufficiently well preserved for bi-zygomatic measurement. Professor Hsi-mei Yang, who is working on this collection has found it justifiable to classify his materials into five sub-groups on a morphological basis; they are,

The average bi-zygomatic measurements of the five classified groups are as follows:

<b>Sub-group</b>					
<b>Bi-zygomatic Diameter (Average)</b>					

It is interesting to compare the averages of the bi-zygomatic measurements of the five sub-groups with those given in Woo and Morant's paper for the three Oriental sub-groups. Yang's sub-group I with an average 141.18 falls definitely within the range of the northern Mongols, while the mean values of Yang's sub-groups III & V are quite below the modern Chinese average and only slightly above the minimum of the "other Orientals." Sub-group IV is within the range of the modern Chinese and Japanese, but sub-group II is above it. Professor Hsi-mei Yang in his preliminary report also announced the results of some of his comparative studies. In 1963 Professor Yang brought some of the type specimens from the Anyang collection to the Smithsonian Institution at Washington D.C. where the authorities helped him to carry on a series of studies comparing his specimens with crania of other peoples available in storage there: sub-group I with the Buriats, Chuckchis and the Mongols of Urga; sub-group II with the Melanesians, Australoids and some African Negroes; sub-group III with American-British and Plains Indians; sub-group IV with the Eskimoid; sub-group V with some Hawaiian skulls. Professor Yang found

in each of these five comparative studies some striking morphological resemblances.

All this leads me to the core of today's problem; namely the making of the modern Chinese people. As a matter of general observation, it may be said that the continuous change in the physical characteristics of the Chinese people is quite faithfully reflected in the present-day geographical variations as recorded, although imperfectly, by many anthropometricians and craniologists. Let us go back once more to Woo and Morant's paper on the classification of the Asiatic races. In this paper, four Chinese series of cranial measurements were discussed. The first Chinese series was taken from Goldon Harrower's work, which consisted of 31 male skulls of Fukien origin. The second series was composed of the data, collected by the Japanese anthropologist Dr. Koganei, in the provinces of Chihli, Shantung, and Southern Manchuria in 1902; but the 70 skulls in his collection were soldiers killed in wartime, so they are actually of unknown origin. The third and the fourth series were both taken from Davidson Black's works in which the origin of the materials used in his study was fully recorded. One consists of the measurements of 86 skulls from the northern provinces of China. The other was Black's monograph on 64 male skulls of the late neolithic and early bronze age. So we know more or less definitely about the geographical locations of three series among the data quoted by Woo and Morant in their paper.

Applying the formula of C. R. L. (Coefficient of Racial Likeness), Woo and Morant found that among the four Chinese series, Koganei's group is more closely related to Harrower's Fukien Collection. The C. R. L. between these two series is 2.86; while Black's modern series shows only a moderate association with Koganei's, the C. R. L. of these two series is 5.6 which is a much larger figure than the C. R. L. between the Japanese series and the Fukien series 3.73. The prehistoric series of Black shows only a slight association with the three modern Chinese series; the C. R. L. between the prehistoric and any of the three modern Chinese series is more than 9 but less than 10.

If we compare these Chinese series with the other Oriental and non-Oriental races of Asia, according to the calculated C. R. L. shown in the above paper, we find some significant results. It is a fact that the modern Chinese crania are further differentiated from all the northern Mongolian series except those of the Chuckchis, an isolated group located in the northeasternmost corner of Asia, on the coast of the Bering Strait. But with the other groups of Orientals in the south, the Chinese series have demonstrated a relationship of a mixed character.

In the historical period of the last 3,000 years, an anthropologist may find that the formation of the Chinese people in a cultural sense is richly documented both in the written records and the archaeological remains. As for the racial aspect, the data are only gradually accumulating. In the remaining few minutes, I am going to summarize some of the important historical notes I have made on this theme.

Franz Weidenreich, in describing the skeletal materials of what he called "the earliest Moderns in East Asia," namely the upper cave finds at Chou-k'ou-tien, concluded that the old male among them represents not only a very primitive form of modern man, but also a type of primitive Mongoloid. He said further that the recent northern Chinese, while more advanced in their physical characteristics are in fact traceable to ancestors like those represented by the old man in the Upper Cave.

The conclusion arrived at by this eminent anthropologist has given rise to much discussion. Recently both Soviet and China archaeologists have claimed discoveries of skeletal remains identifiable to Mongoloid, earlier than the dating of the CKT Upper cave. But more detailed evidence is needed for verification of these claims. Next to Weidenreich's study, Davidson Black's investigation of the north China prehistorical series may be considered. Black remarked at the conclusion of his paper that the neolithic Chinese show a group of physical characters differing very little from the modern inhabitants of North China. He even went so far as to say that the neolithic Chinese was the prototype of the modern inhabitants of North China.

Now with the study of the earliest historical crania nearing the final stage, we are in a position to make some amendments to Black's conclusion. The core of the problem with the Anyang data is, while comparative studies have made it quite clear that this collection is composed of at least five morphologically distinct units, of which four are identifiable with living ethnical groups, it remains rather obscure which of these units was typical of the ruling class of the Yin-Shang dynasty. The reason is: practically all these skulls in the Anyang collection were excavated from what the field archaeologists call "the cranial pits," mainly sacrificial in nature. In other words, these skulls were offerings to the departed spirits of the masters of the Royal Tombs, whose own bodies were destroyed by tomb robbers long before modern scientific excavation took place. In the oracle bone inscriptions, there are many records of the Yin-Shang people fighting against foreign invasions on both the northwestern frontier and the southeastern border. It is not unusual, according to these records, to find that the heads of captured invaders were chopped off and



offered to the spirit of the departed ancestors, a practice which was evidently very fashionable with the warriors of the Bronze Age all over the Eurafian and Asian continent.

It is possible that the sacrificial victims might have included in their number, members of the royal clan, and even the descendants of royalty. It is a question that certainly should be investigated by social scientists and historians. For the present, it is sufficient to note that in the latter part of the 2nd millennium B. C., north China was a meeting place for a variety of peoples: Eskimoid, Mongoloid, Australoid, Negroid, Caucasoid, and a number of others. The Eskimoid and the Mongoloid are the numerically dominant groups; next are the various Melanesian types; the smaller headed skulls are not quite identifiable.

These identifications serve to indicate that the Chinese of this period were already in a melting pot.

In the dynasties that followed this period, we have more historical data for a study of migration of the Chinese people both within the boundary of China proper, and in the borderland area; successive invasions, mainly from the north, gave impetus to most migrations. In every case, the result was an intensification of the process of hybridization among different clans, tribes, and nationals. There were at least four major population movements in the historical period. The first population movement of great importance took place in the Shang-Chou period when the Chou Dynasty replaced the power of the Shang in the 12th century B. C. It was followed by a second movement in the 5th century B.C. in the Chan-kuo period which lasted to the late 3rd century B.C. The best-recorded population movements are those of the subsequent two periods about which I first worked out the general outline more than 40 years ago, and which has been elaborated recently by an enormous number of historical documents. They are the Yüngchia movement in the 4th century A.D. and the Ching'ang movement of the 12th century A.D. In both cases, the movement started with foreign invasions from the north, activating the momentum of the mass migration toward the south. The remnant indigenous people in north China, as a consequence, absorbed the invaders from the steppes, while emigrants from the Yellow River basin who crossed the Yangtze River and settled further south, mixed to some degree with the indigenous population of the southern territory.

Völkerwanderungen are not unlike atmospheric circulation; the major movements mentioned above were typhoons and hurricanes. In addition, there were also seasonal winds and gentle breezes which intervened regularly between the stormy years. I believe that all students of population

studies would concur that to this day, in the land of the mainland of China, Völkerwanderung is still as active as in earlier historical times.

One of the main results of this perpetual-motion as evidenced by the continuous historical marches is the highly hybridized character of the Chinese of the present day, homogenized by a unique culture. Two questions remain to be answered. What happened to the northern Mongols, whose ancestral type not only made a major contribution to the sacrificial pits in the royal tombs of the Yin-Shang period, but also produced a Chinggis Khan for world historians to ponder and created a dynasty for the Chinese people to endure? They seem to have left no noticeable somatic impression on the Chinese population in spite of the free philandering activities which they monopolized in China for nearly a century.

The second question is about the Melanesian elements found in the Anyang skeletal remains. They certainly seem to have been present in Shang times in the neighborhood of the North China Plain. Were they ever mixed with other racial elements among the Chinese population?

These are questions for further investigations. But from the data which we have reviewed, one point emerges quite clearly: if the northern Mongols and the Melanesian group have not succeeded on China's mainland today it cannot have been due to any political reason, or race prejudice which is altogether a modern concept. Everybody knows the famous Confucian saying: EDUCATION WITHOUT DISCRIMINATION, a motto which helped the Chinese statesman for more than 2,000 years to forge many racial elements into one people, and many local cultures into one civilization. If the northern Mongols and the southern Melanesians seem to have disappeared somatologically within the boundaries of China proper, the reasons, I venture to suggest, are mainly environmental.

I am using the word "environmental" in its broadest sense, covering all the physical and social aspects. There is little doubt that in the land of China, as everywhere else, group mores and individual variations of man's ability to adapt himself to the climatic and ecological changes and to the constant new demands of an active society and a dynamic polity have always played a fundamental role in the selective process. By continually molding and remolding the physical as well as the mental character of its inhabitants, this process developed a modern type of Chinese widely divergent from that of their neolithic ancestors as described by the late Professor Davidson Black. This divergence has been demonstrated rather convincingly by the study of Woo and Morant, who, by means of the formulae of C. R. L. have shown that the degree of association among the three modern series of Chinese crania is much closer than that of any one

of the three compared with the prehistoric group.

Thus, in spite of the wide range of anthropometrical variations made apparent by recent surveys among the living inhabitants, a more or less convergent somate-type seems to be emerging in the mainland of China. And, its emergence will inevitably be accelerated by another quickened pulse of *völkerwanderung* which is already taking place in Eastern Asia. The recent population movement on a gradually enlarged scale is obviously a repetition of the many historical marches recorded in Chinese chronicles. Its ultimate consequence is very likely to be a further intensification of the hybridizing process of the immigrants with the native-born along the migratory route. If racialists should insist on the existence of a pure Chinese stock, let me quote what Franz Weidenreich queried over 20 years ago. He asked: "Who are the individuals who produce the hybrids anew each day?" His own answer to this question is well-known: there has never been any "pure race" on this planet of ours. This theory, in my opinion, can be fully confirmed by the racial history of the Chinese people.

# Appendix A: Letter to the British China Indemnity Delegation

Tsing Hua College,

Peking,

June 5, 1926.

The British China Indemnity Delegation,

c/o British Legation,

Peking.

Dear Sires,

The undersigned beg to present to your delegation a few data on the importance of establishing a museum of Chinese anthropology and archaeology, and reasons to apply a grant from the Indemnity Fund.

**I**

The aggregation of the Chinese people, as many visiting anthropologists can testify, is composed of such a number of quite different racial elements and strains that their discrimination is often a puzzle even to the expert anthropologists. Such blending of races cannot but have a considerable influence upon the history and the development of the Chinese as a race. Compared with the advance of recent researches accomplished in Europe and America, and even in other parts of Asia, the anthropological data collected in China are very meager and sporadic. In view of the vast territory of China, it is quite possible that a systematic and combined effort of anthropological study, if it could be made, would yield surprisingly valuable results.

The science of archaeology is no less in need of development to a far greater extent than at present. It has been quite widely deplored that much

of Chinese archaeological remains have suffered from the secret pillage and plundering by unscrupulous curiosity dealers. Their underhand method of collecting has resulted in hiding from the public any knowledge of the locality, position, and association of objects which are necessary for scientific study and preventing further systematic excavation. Such wanton destruction of ancient sites and dispersion of remains into unknown channels can only be checked by conducting scientific expeditions for the purpose of excavation, the result of which will not only convince the public of the scientific value of ancient sites and remains, and their necessary protection, but also contribute to the progress of archaeological knowledge itself.

In this connection, the undersigned is not unaware of the existence of several establishments that might be in a position to carry forward the work mentioned. Unfortunately owing to the lack of financial aid or to the insufficiency of the technical staff they have not been able to perform these duties as actively as might be expected. The Historical Museum under the Ministry of Education had conducted only two excavations and these in cooperation with a representative of the Smithsonian Institution. The Art Museum under the Ministry of Interior has fulfilled the function of an exhibition.

On the other hand, several scientists interested in the subjects have worked either independently or under the auspices of organizations whose primary function is rather remotely related to archaeology. The finds of the culture of New Stone Age in North China by Dr. J. G. Andersson and members of the Geological Survey, the anthropological measurement made by Dr. Black and Dr. Stevenson of P. U. M. C. and the recent anthropometrical work by Dr. Chi Li in Hupeh, Honan, Shansi are a few instances of the widely scattered efforts in this field. The need for combined efforts is evident to avoid much duplication of work and to promote new lines of research. We can count on quite a number of both Chinese and foreign experts now in Peking to aid in this work. But an organized center should exist and this should be a full-equipped and [sic] modern museum which can fulfill the function of a centralizing organization.

## II

The proposed museum shall be located in Peking as a National Institution. It shall serve as a clearing house of all the archaeological and anthropological work done in China. It shall have a free hand in its administration from other organizations. Therefore an independent

administration with Boards of Trustees and Counsellors can best serve the purpose. It may start from a small beginning but its aim shall be to carry out active research and systematic excavations. But at the same time, it shall be so organized that rapid expansion and enlargement of the scale of its work, is possible.

Its activities shall comprise:

### III

Therefore herewith the undersigned apply for a grant from the Indemnity Fund to finance the above-outlined undertaking. Our estimated annual budget and initiative expenditure are as follows:

Respectively submitted

Chi Li. Ph.D. (Harvard). Lecturer of anthropology, Tsing Hua College; former Dean and Professor of anthropology of Nan Kai University.

Chien-Shih Shen, Dean, The Institute of Sinological Studies, National University of Peking.

Wen-hao Wong, D.Sc. (Louvain). Director, National Geological Survey; President, Geological Society of China; President, Peking Society of Natural History.

A. W. Grabau, Sc.D. (Harvard). Chief Palaeontologist, Geological Survey; Professor of Paleontology, National University of Peking; Dean, Peking Laboratory of Natural History.

P. L. Yuan, M. A. (Columbia). Geologist, National Geological Survey; Lecturer on Physiography, National University of Peking.

Davidson Black, Ph.D., M.D., Professor, Department of Anatomy, Peking Union Medical College.

Y. T. Tsur, M.A. (Yale), Litt.D. (St. John's) Secretary-General, Commission for the Adjustment of Finances; Manager of the Chung Foo Union Bank; Former President of Tsing Hua College.

W. W. Yen, LL.D., Premier; Minister of Foreign Affairs; Chairman, o  
Commission for the Adjustment of Finance.

Y. S. Tsao, M.B.A. (Harvard) President, Tsing Hua Collge, Peking.Monlin  
Chiang, Ph.D., (Columbia) Acting Chancellor, National University of  
Peking.

Monlin Chiang, Ph.D., (Columbia) Acting Chancellor, National University  
of Peking.

## **Appendix B: Letter of Invitation from Hu Shih**

104 East 81 Street

New York 28, N. Y.

February 16, 1955

Dear Fellow Member\_\_\_\_\_:

There are 12 members of the Academia Sinica in North America. They are:

During my last two visits to Taipei, President Chu Chia-hua of the Academia Sinica and the other members now in Taiwan agreed that an informal meeting of the members of Academia Sinica now scattered in many parts of the North American continent might be held for the purpose of renewing friendship, receiving reports of the A. S., and exchanging news regarding its future.

When Dr. Li Chi came to New York last November, he again urged me to try to call such a meeting. Dr. Li is now lecturing at the University of Washington, Seattle, Wash., where two other members of the A. S., Dr. Li Fang-kuei and Dr. Hsiao Kung-chuan have been teaching and doing research work.

Last week, Dr. Y. R. Chao, who had just returned from a European trip and is now residing at Cambridge, Mass., came to New York and met with three other fellow-members, Drs. S. S. Chern, Li Shu-hua, and myself. This question of holding an informal meeting of the Members of the A. S. in North America was informally discussed. The discussion was resumed the next day by Dr. Chao and myself.

Because of the four-quarter system of the University of Washington, the three Seattle members can only have their vacation from March 18–28. It is suggested to call a meeting of the A. S. members on Saturday and Sunday, March 19–20, in New York. I have volunteered to write to the members and to take charge of the arrangements as to the place of the meeting and hotel accommodation.

There is a fund held by Dr. Chao for the A. S. in the United States. We are authorized to draw on this fund to pay traveling and living expenses of the members attending this meeting according to the following suggested scale:

\$400 for each member coming from the Pacific Coast.

\$150 for each member coming from Indiana and Ottawa.

\$100 for each member coming from Baltimore and Boston.

\$50 for each member coming from the New Jersey and New York area.

If all twelve members can come, the total expenses will amount to \$2,100 plus rent for the meeting place.

There will be no “official business” to be transacted. Dr. Li Chi will report on the present situation, new buildings at Nankang and future plans of the A. S. It will be entirely a meeting of old friends and friendly chats.

Kindly airmail or wire me whether you can come on March 19–20. When all replies are in, I shall immediately make the hotel arrangements and notify you of the meeting place and your hotel reservations. The meeting will probably begin on the afternoon of Saturday, March 19th.

Hoping the above information and suggestions may meet with your approval (Fig. [B.1](#)).





**Fig B.1A** meeting of Academia Sinica members in United States: (clockwise) Y. R. Chao, G. H. Wang, T. H. Tung (guest), K. H. Chen, Hsiao Kungchuan, Li Fang-kuei, S. S. Chern, Robert K. S. Lim, Y. C. Yuan, Hsien Wu, Wu Ta-you, Lao Kan (guest), Li Shu-hua, Hu Shih, Li Chi

Sincerely yours,

## Technical Terms

Ainu

Anthropometrical measurement

Auditory height

Australoid

Bent rim

Bi-zygomatic diameter

Bi-zygomatic width

Black Pottery culture

*Bos exiguu*

Bronze and Copper Age

*Bubalus mephistophele*

Budorcas taxicolor lichii

Cephalic index

Ceremonial vessel

*Chi*

Chuckchi

Coefficient of Racial Likeness

Cranial measurement

Dayak

Décor piece

Eskimoid

Glacial age

Hametic people

*Hang-t'u stratum*

Head breadth

Head length

Hominidae

*Homo sapiens*

Horizontal circumference

*Hsien*

*Hu*

Jade-with-bronze sleeve

Melanesoid

Minimum frontal diameter

Mongoloid fold

Mongoloid

Mortise

Nasal aperture

Nasal bone

Nasal breadth

Nasal bridge

Nasal form

Nasal height

Nasal root

Nasion-menton height

Nasion-prosthion height

Negrito

Negro

New Stone Age

Occipital

Ordos region

Ordos tooth

Osteological measurement

Painted Pottery culture

Palaeo-Asiatic people

Palaeography

Physical anthropology

Pisé foundation

Pithecanthropus Erectus

Pleistocene

Proto-Chinese

Psychozoic period

Shovel-shaped upper incisor

Sinanthropus pekinensis

Sitting height

Square *yi*

Stature

Tenon

*Testudo anyangensis*

*Tng* tetrapod

*Ting* tripods

Upper Palaeolithic time

Volkerwanderungs

*Yu* wine vase

## **Related Works and Documentations**

A Study of Kansu and Honan Aeneolithic Skulls and Specimens from Later Kansu Prehistoric Sites in Comparison with North China and Other Recent Crania

Agricultural Records of the Yin Dynasty from the Oracle Bone Inscriptions

Chemical Analyses of Different Types of Hsiao-t'un Potteries

Dentition of *Sinanthropus Pekinensis*

Diverse Background of the Decorative Art of the Yin Dynasty

Further Notes on the Mammalian Remains of Yin-hsu, Anyang

Mining and Agriculture in the Yin Dynasty

New Discoveries of a Ch'i Chia Culture

Notes on Some Anthropometrical Measurements of the Freshmen of the National Taiwan University

On a Presumably Pleistocene Human Tooth from the S'jara-osso-gol Deposits

On the Animal Remains from the Tombs of the Yin Dynasty at Hsiao-t'un, Anyang

On the Earliest Representatives of Modern Mankind Recovered on the Soil of East Asia

On the Human Skeletal Remains from Yangshao Ts'un in Comparison with

Recent North China Skeletal Materials

On the Inscribed Plastron (No. 2908) Recording King Wu-ting's Hunting Expedition to 'Ch'iu

On the Mammalian Remains from the Archaeological Site of Anyang

On the Seven Complete Inscribed Tortoise Shells from the Excavation at Houchia-chuang, Anyang

On the Turtle Remains from the Archaeological Site of Anyang, Honan

Preliminary Report on the Excavation at Hou-kang

Preliminary Report on the Excavations of the Ancient Cemetery at Hsin-ts'un, Chun Hsien, Honan

Pre-Yin Cultural Deposits under the Surface of Hsiao-t'un

Researches into the Prehistory of the Chinese

Some Anthropological Problems of China

Studies of Hsiao-t'un Bronzes, Part I

Studies of Hsiao-t'un Bronzes, Part II

Study of the Bronze Casting Technique of the Yin Dynasty

The Lungshan Culture, a Prehistoric Phase of Chinese Civilization

The Royal Tombs of Anyang

Typological Studies of the Bronze Kou-ping (Chinese Halberts) Excavated from Northern Honan, with a Classified and Illustrated List

*An Early Chinese Culture*

*Apes, Giants and Man*

*Archaeologia Orientalis*

*Archaeologia Sinica*

*Archaeological Research in Kansu*

*Biometrika*

*Bulletin of the College of Arts*

*Bulletin of the Department of Archaeology and Anthropology*

*Bulletin of the Geological Society of China*

*Bulletin of the Museum of Far Eastern Antiquities*

*Bulletin of the National Research Institute of History and Philology of the Academia Sinica*

*Bulletin of the Natural History Society of Peking*

*Ch'eng-tzu-yai*

*Ch'eng-tzu-yai: The Black Pottery Culture Site at Lung-shan-chen in Li-ch'enghsien, Shantung Province*

*Chinese Journal of Archaeology*

*Chinese Thought and Institutions*

*Collected Papers of Fu Meng-chen*

*Continental Magazine*

*Early Chinese Bronzes*

*Harvard Graduates Magazine*

*Independence, Convergence and Borrowing in Institution, Thought and Art*

*Innermost Asia*

*La Sculpture surpierre en Chine au temps des deux dynasties Han*

*Les Grottes de Touen-houang*

*Les Memoires historiques de Se-Ma-Ts'ien*

*Memorial Volume of President Fu Ssu-nien*

*New Light on the Most Ancient East*

*Palaeontologia Sinica*

*Photographic Reproductions of the Rubbings of the Tomb Figures of Wu Liang Tz'u*

*Prehistoric Pottery in China*

*Preliminary Report on the Black Pottery Cultural Remains in the Second District in Hang Hsien*

*Preliminary Reports of Excavations at Anyang*

*Primitive Art*

*Proceedings of the Eighth Pacific Science Congress*

*Proceedings of the Sixth Pacific Science Congress*

*Ruins of Desert Cathay*

*Second Biennial Conference Proceedings, International Association of  
Historians of Asia  
Serindia*

*Smithsonian Report for 1927*

*The Autobiography of a Chinese Historian*

*The Birth of Civilization in the Near East*

*The Cave Deposits of Sha-Kou-T'un in Fengtien*

*The China Journal of Science and Arts*

*The Life and Times of Po Chu-i*

*Tôhō Gakuhô (Journal of Oriental Studies)*

*Up from the Ape*



